ORDER NO. KM40312313C2

Service Manual

Telephone Equipment

Caller ID Compatible

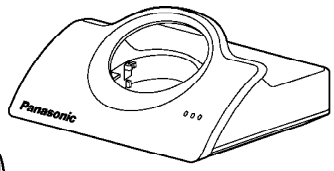
KX-TCD430GC / KX-TCD430GF / KX-TCD432GC / KX-TCD432GF / KX-A143EXC / KX-A143EXF

Digital Cordless Phone

Dark Blue Version

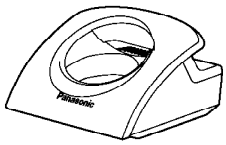
Light Blue Version

(for Germany)



KX-TCD430GC/GF
KX-TCD432GC/GF
(BASE UNIT)

KX-A143EXC/EXF
(HANDSET)



(CHARGER UNIT)

Configuration for each model

Model No	Base Unit	Handset	Charger
KX-TCD430	1	1 (A143)	
KX-TCD432	1	2 (A143)	1
KX-A143		1	1

KX-A143 is also an optional accessory, which contains a handset and a charger.

SPECIFICATIONS

SPECIFICATION

Standard:	DECT= (Digital Enhanced Cordless Telecommunications)
Number of channels:	120 Duplex Channels
Frequency range:	1.88 GHz to 1.9 GHz
Duplex procedure:	TDMA (Time Division Multiple Access)
Channel spacing:	1728 kHz
Bit rate spacing:	1152 kbit/s
Modulation:	GFSK= (Gaussian Frequency Shift Keying)
RF Transmission Power:	approx. 250 mW
Voice coding:	ADPCM 32 kbit/s
Operation range:	Up to 300 m outdoors, Up to 50 m indoors
Analog telephone connection:	Telephone Line
Power source:	AC Adaptor (220 V - 240 V AC, 50 Hz)

Power consumption, Base Unit:	Standby: 3.5 W / Maximum: 9.2 W
Charger Unit:	Standby: 2.3 W / Maximum: 6.8 W
Battery life, Handset (if batteries are fully charged):	Stand-by: Up to 120 hours (Ni-MH) Talk: Up to 10 hours (Ni-MH)
Operating conditions:	5 - 40 °C, 20 - 80 % relative air humidity (dry)
Dimensions, Base Unit (D x W x L):	58 mm x 128 mm x 105 mm
Dimensions, Handset (D x W x L):	143 mm x 48 mm x 32 mm
Dimensions, Charger Unit (D x W x L):	60 mm x 86 mm x 84 mm
Weight, Base Unit:	about 170 g
Weight, Handset:	about 120 g
Weight, Charger Unit:	about 113 g
Connection jack:	RJ11 to TAE-F Plug

Specifications are subject to change.
The illustrations used in this manual may differ slightly from the original device.

IMPORTANT INFORMATION ABOUT LEAD FREE, (PbF), SOLDERING
If lead free solder was used in the manufacture of this product the printed circuit boards will be marked PbF.
Standard leaded, (Pb), solder can be used as usual on boards without the PbF mark.
When this mark does appear please read and follow the special instructions described in this manual on the use of PbF and how it might be permissible to use Pb solder during service and repair work.

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⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public.
It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.
Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

When you note the serial number, write down all 11 digits. The serial number may be found on the bottom of the unit.

Panasonic

1. ABOUT LEAD FREE SOLDER (PbF: Pb free)

Note:
In the information below, Pb, the symbol for lead in the periodic table of elements, will refer to standard solder or solder that contains lead.
We will use PbF solder when discussing the lead free solder used in our manufacturing process which is made from Tin (Sn), Silver (Ag), and Copper (Cu).
This model, and others like it, manufactured using lead free solder will have PbF stamped on the PCB. For service and repair work we suggest using the same type of solder although, with some precautions, standard Pb solder can also be used.

Caution

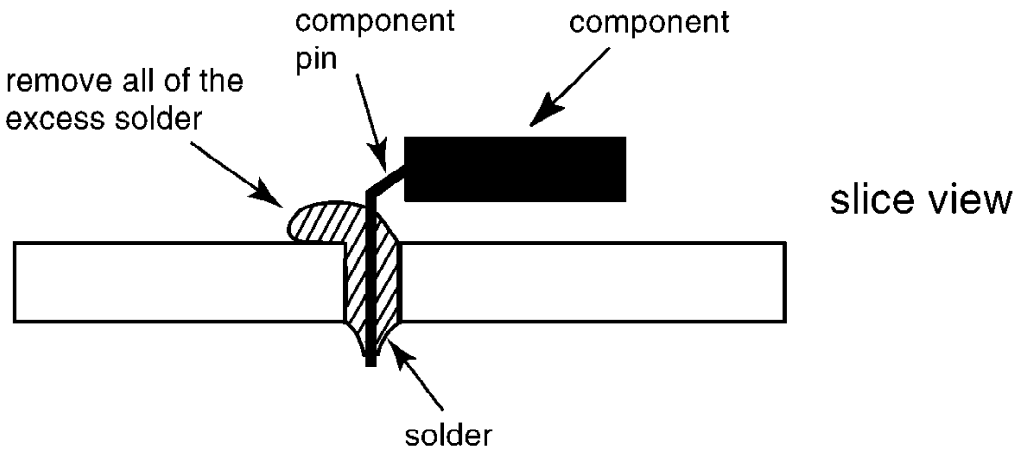
- PbF solder has a melting point that is 50°F ~70°F (30°C ~ 40°C) higher than Pb solder. Please use a soldering iron with temperature control and adjust it to 700°F ± 20°F (370°C ± 10°C). In

case of using high temperature soldering iron, please be careful not to heat too long.

- PbF solder will tend to splash if it is heated much higher than its melting point, approximately 1100°F (600°C).

- If you must use Pb solder on a PCB manufactured using PbF solder, remove as much of the original PbF solder as possible and be sure that any remaining is melted prior to applying the Pb solder.

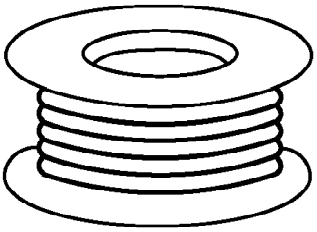
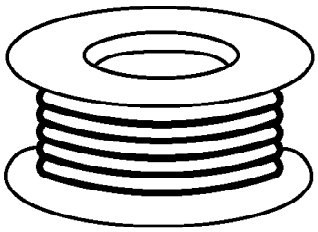
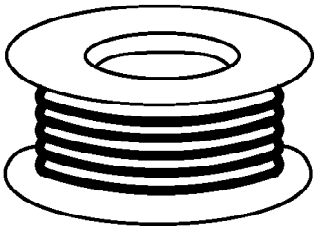
- When applying PbF solder to double layered boards, please check the component side for excess which may flow onto the opposite side (See the figure below).



1.1. Suggested PbF Solder

There are several types of PbF solder available commercially. While this product is manufactured using Tin, Silver, and Copper (Sn+Ag+Cu), you can also use Tin and Copper (Sn+Cu) or Tin, Zinc, and Bismuth (Sn+Zn+Bi). Please check the manufacturer's specific instructions for the melting points of their products and any precautions for using their product with other materials.

The following lead free (PbF) solder wire sizes are recommended for service of this product: 0.3mm, 0.6mm and 1.0mm.

0.3mm X 100g	0.6mm X 100g	1.0mm X 100g
		

1.2. How to recognize that Pb Free solder is used

1.2.1. Base Unit PCB

(Component View)

(Flow Solder Side View)

Note:
The location of the “PbF“ mark is subject to change without notice.

1.2.2. Handset PCB

(Component View)

(Flow Solder Side View)

Note:
The location of the “PbF“ mark is subject to change without notice.

1.2.3. Charger Unit PCB

Note:
The location of the “PbF“ mark is subject to change without notice.

2. FOR SERVICE TECHNICIANS

ICs and LSIs are vulnerable to static electricity.

When repairing, the following precautions will help prevent recurring malfunctions.

1. Cover the plastic parts boxes with aluminum foil.

2. Ground the soldering irons.

3. Use a conductive mat on the worktable.

4. Do not touch IC or LSI pins with bare fingers.

3. CAUTION

Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommendenced by the manufacturer.
Dispose of used batteries according to the manufacture's Instructions.

4. BATTERY

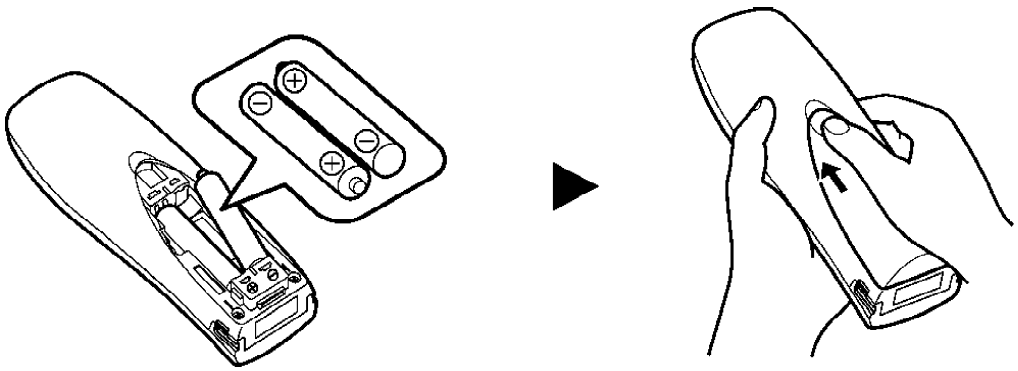
4.1. Battery Installation

1. Insert the batteries negative (-) terminal first.

2. Close the battery cover.

Note:

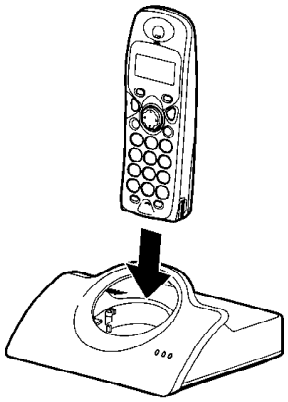
- Use only rechargeable P03P (Ni-MH)/P03H (Ni-Cd) batteries.

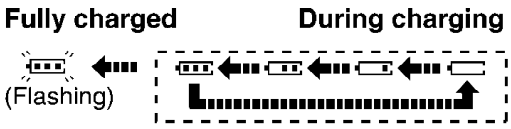


4.2. Battery Charge

Place the handset on the base unit for about 7 hours before initial use.

When the batteries are fully charged, **flashes. When charging, the battery icon is shown as follows.**





Display icon	Battery strength
	High
	Medium
	Low
	Needs to be charged

Clean the charge contacts of the handset and base unit with a soft, dry cloth, otherwise the batteries may not charge properly. Clean if the unit is exposed to grease, dust or high humidity. If the handset is turned off, it will be turned on automatically when it is placed on the base unit.

Note for Service:
The battery strength may not be indicated correctly if the battery is disconnected and connected again, even after it is fully charged.
In that case, by recharging the battery as mentioned above, you will get a correct indication of the battery strength.

4.3. Battery Life

After your Panasonic batteries are fully charged, you can expect the following performance:

Ni-MH batteries (typical 700 mAh)

Operation	Operating time
While in use (talking)	10 hours max.
While not in use (standby)	120 hours max.

Ni-Cd batteries (typical 250 mAh)

Operation	Operating time
While in use (talking)	4 hours max.
While not in use (standby)	40 hours max.

Note:

- The included batteries are Ni-MH batteries.

- Battery operating time may be shortened depending on usage conditions and ambient temperature.

4.4. Battery Replacement

If **flashes even when the handset batteries have been fully charged, both batteries must be replaced.**

Important:

- Please use only the Panasonic batteries HHR-4EPT/BA2 (P03P).

- Use only rechargeable batteries. If you install non-rechargeable batteries and start charging, the batteries may leak electrolyte.

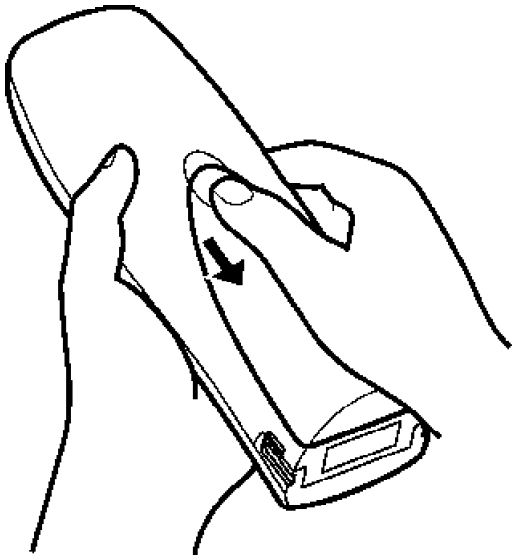
- Do not mix old and new batteries.

- Use only 2 nickel metal hydride (Ni-MH) batteries or 2 nickel cadmium (Ni-Cd) batteries. Do not mix battery types.

- Ensure that the correct battery type is selected.

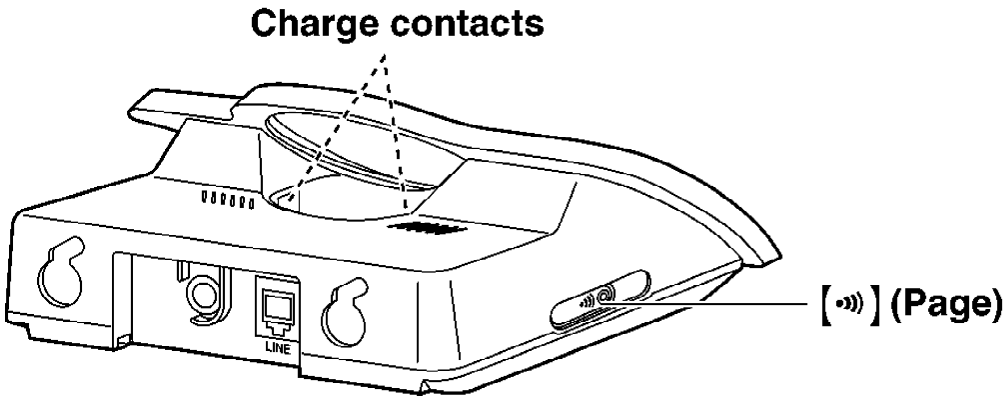
1. Press the notch on the cover firmly and slide it in the direction of the arrow.

2. Remove the batteries positive (+) terminal first. Replace both batteries.

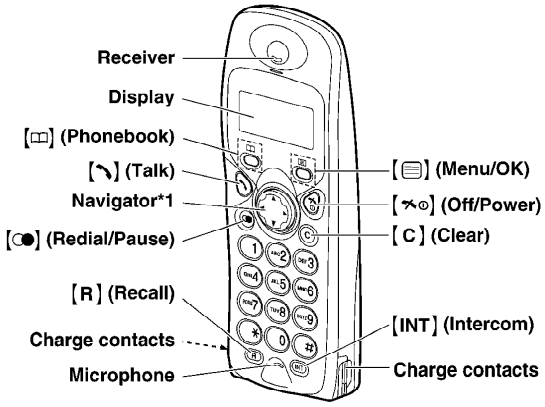


5. LOCATION OF CONTROLS

5.1. Base Unit



5.2. Handset



• *1: [▲][▼]: To search for the desired item in the setting menu, caller information or phonebook.
[▶]: To select the desired item or move the cursor to the right.
[◀]: To go back to the previous display or move the cursor to the left.

6. SETTINGS

General

- Do not connect the AC adaptor to any AC outlet other than a standard 220-240 V AC outlet.
- This product is unable to make calls when:
- The portable handset batteries need recharging or have failed.
- There is a power failure.
- The key lock feature is turned on.
- The call bar feature is turned on (only numbers stored as emergency numbers can be called).
- Do not open the base unit or handset (other than to change the batteries).
- This product should not be used near emergency/intensive care medical equipment and should not be used by people with pacemakers.
- Care should be taken that objects do not fall onto, and liquids are not spilled into, the unit. Do not subject this product to excessive smoke, dust, mechanical vibration or shock.

Environment

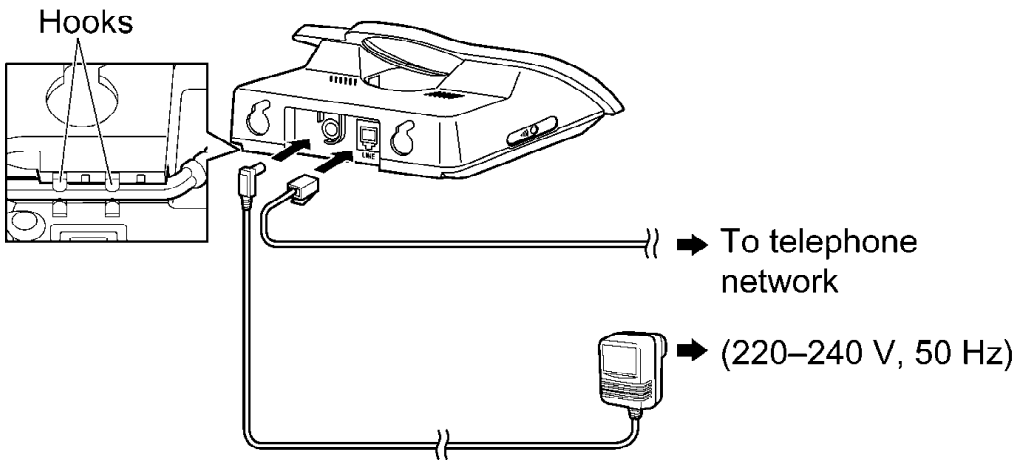
- Do not use this product near water.
- This product should be kept away from heat sources such as radiators, cookers, etc. It should also not be placed in rooms where the temperature is less than 5°C or greater than 40°C.
- The AC adaptor is used as the main disconnect device. Ensure that the AC outlet is located/installed near the unit and is easily accessible.

Location

For maximum distance and noise-free operation, place your base unit:
- Away from electrical appliances such as TVs, radios, personal computers or other phones.
- In a convenient, high and central location.

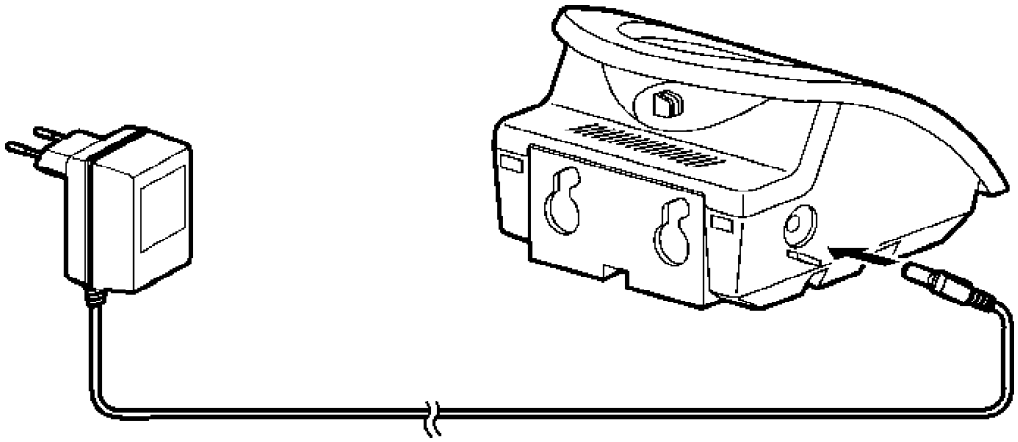
6.1. Connection

6.1.1. Base Unit



- If the handset is not charged, you cannot make or answer calls.
- Never install telephone wiring during a lightning storm.
- The AC adaptor must remain connected at all times. (It is normal for the adaptor to feel warm during use.)
- Use only the AC adaptor PQLV19CEZ.

6.1.2. Charger Unit



- The AC adaptor must remain connected at all times (It is normal for the adaptor to feel warm during use).
- Use only the AC adaptor PQLV200CEZ.

6.2. Ringer Volume

6.2.1. Base Unit

4 levels (high/medium/low/off) are available.

1 Press [⊟].
2 Press [▼] repeatedly to display "SETTING BS", then press [▶].
3 Press [2] 2 times.
4 Select the desired setting by pressing [1] for low, [2] for medium, [3] for high or [0] for off.
5 Press [▶], then press [↷⊙].

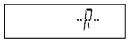
6.2.2. Handset

You can select the desired ringer volume from off, level 1 to 6 or ✱6.

1 Press [ ].
2 Press [▼] repeatedly to display "SETTING HS", then press [▶].
3 Press [▼] repeatedly to display "RINGER OPT", then press [▶].
4 Press [▼] repeatedly to display "RINGER VOL", then press [▶].
5 Press [▲] or [▼] repeatedly to select the desired volume, then press [▶].
6 Press [ ].

Note:

- If you set to level 3 to 6 or ✱6, each ringer will start ringing with lower volume, then gradually increase in volume when receiving a call.
- Levels 6 and ✱6 are the highest settings. Their ringing methods are slightly different.
- When the ringer volume is set to off, the following will be displayed.



6.3. PIN Code

6.3.1. Base Unit

The base unit's default PIN is "0000".

1 Press [ ].
2 Press [▼] repeatedly to display "SETTING BS", then press [▶].
3 Press [5].
4* Enter the current 4-digit base unit PIN.
5 Enter the new 4-digit base unit PIN.
6 Enter the new 4-digit base unit PIN again.
7 Press [ ].

For Service Hint:

*** : If the current 4-digit PIN is forgotten, press ✱ 7 0 0 0 and you will be able to enter new PIN.**

6.3.2. Handset

The handset's default PIN is "0000".

1 Press [ ].
2 Press [▼] repeatedly to display "SETTING HS", then press [▶].
3 Press [▼] repeatedly to display "OTHER OPT", then press [▶].
4 Press [▼] repeatedly to display "HSPIN CHANGE", then press [▶].
5* Enter the current 4-digit handset PIN.
6 Enter the new 4-digit handset PIN.
7 Enter the new 4-digit handset PIN again.
8 Press [ ].

For Service Hint:

*** : If the current 4-digit PIN is forgotten, press ✱ 7 0 0 0 and you will be able to enter new PIN.**

6.4. Reset

6.4.1. Base Unit

1 Press [≡].
2 Press [▼] repeatedly to display "SETTING BS", then press [►].
3 Press [0].
4 Enter "0000" (default base unit PIN).
• If you changed PIN, enter it.
5 Press [►], then press [↷⊙].

Note:

- The emergency number setting will not be reset.

Base Unit Initial Settings

Function	Initial Setting	Remarks (selectable o
Ringer Mode	All Handsets	All Handsets/Specific Har
Number of Rings	3	Up to 6 rings
Flash/Earth	Flash	-
Flash Timing	200msec	80/200/700 msec
Pause Timing	3 seconds	3 seconds/5 seconds
Call Restricted Handsets	All Clear	Each Handset can be set indivisually.
Call Restriction Numbers	All Clear	Up to 10 numbers (up to 8
4-Digit Base Unit PIN	0000	-
ARS Setting	OFF	ON/OFF
Carrier Code	All Clear	-
Area Code	All Crear	-
Relation of Area Code	All Area Code to Carrier Code 1	1 to 5

6.4.2. Handset

1 Press [≡], [▼], [►], [▲] and [►].
2 Enter "0000" (default handset PIN).
• If you changed PIN, enter it.
3 Press [▼], [►] and [↷⊙].

Note:

- Phonebook entries will not be erased.
- The battery type setting will not be reset.

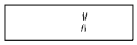
Handset Initial Settings

Function	Initial Setting	Remarks (selectable o
Time Alarm Mode	OFF	OFF/ON
Alarm Time	Clear	OFF/Once/Daily
Handset Ringer Volume	6	1 to 6
Handset External Ringer Pattern	1	20 patterns
Handset Internal Ringer Pattern	1	20 patterns
Handset Paging Tone Pattern	1	20 patterns
Handset Alarm Tone Pattern	1	20 patterns
Key Tone	ON	ON/OFF
Call Waiting Tone	ON	ON/OFF
Range Warning Alarm	OFF	OFF/ON
Battery Low Alarm	ON	ON/OFF
Standby Mode Display	Clock	Clock/OFF/Base No./Hanc
Talk Mode Display	Length of the Call	Talk Time/Phone No.
Display Language	German	10 languages
Call BAR	OFF	OFF/ON
Direct Call Mode	OFF	OFF/ON
Direct Call Number	Clear	Up to 24 digits
4-Digit Handset PIN	0000	-
Auto Talk	OFF	OFF/ON
Redial Memory	All Clear	-
Handset Receiver Volume	1	1 to 3

6.5. Key Lock

The dial keys can be locked so that no calls can be made. Only incoming calls will be accepted while key lock is on.

To turn on key lock, press [ ] for about 2 seconds.
• A beep will sound and the following will be displayed.



To turn off key lock, press [ ] for about 2 seconds.

Note:

- Emergency calls cannot be made until key lock is turned off.
- Key lock is turned off when the handset is turned off.

6.6. R button to use the recall feature

[R] is used to access optional telephone services such as call waiting. Contact your service provider for details.
If your unit is connected to a PBX (private branch exchange), pressing [R] can allow you to access certain features of your host PBX such as transferring an extension call.

6.7. Pause button for PBX line/long distance service users

A pause is sometimes required when making calls using a PBX or long distance service.

Example: If you have to dial [9] before dialling outside numbers manually, you will probably pause after dialling [9] until you hear a dial tone.

1 Press [9].
2 Press [○●].
- "P" will be displayed.

3 Dial the phone number.
4 Press [↘].

Note:
- Pressing [○●] once creates one pause. Press [○●] repeatedly to create longer pauses.

6.8. Setting Call Restriction

You can restrict selected handsets from dialling certain phone numbers. You can assign up to 10 phone numbers to be restricted per handset. If a restricted number is dialled, the call will not be connected and the restricted number will flash on the display. For example, storing an area code will prevent a handset from dialling a long distance call.

1 Press [▤].
2 Press [▼] repeatedly to display "SETTING BS", then press [▶].
3 Press [6].
4 Enter "0000" (default base unit PIN).
- If you changed PIN, enter it.
- All the registered handset numbers will be displayed.
- Flashing numbers indicate call restriction is turned on for the corresponding handset.

5 Press the desired handset numbers.
- The selected handset numbers will flash.
- To cancel a selected handset number, press the number again. The number will stop flashing.

6 Press [▶].
7 Enter the phone number to be restricted (8 digits max.).
- If the phone number is already assigned for an index number (1–10), press [▶] repeatedly to select the unassigned index number.

8 Press [▶].
- To restrict other numbers, repeat from step 7.

9 Press [↖⊙].

6.9. Cancelling a Restricted Number

1 Press [▤].
2 Press [▼] repeatedly to display "SETTING BS", then press [▶].
3 Press [6].
4 Enter "0000" (default base unit PIN).
- If you changed PIN, enter it.

5 Press [▶] repeatedly to display the desired number.
6 Press [C].
7 Press [▶], then press [↖⊙].

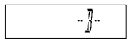
6.10. Setting Call BAR

This feature prohibits making outgoing calls. When call bar is turned on, only intercom calls and emergency calls can be made.

1 Press [≡].
2 Press [▼] repeatedly to display "SETTING HS", then press [►].
3 Press [▼] repeatedly to display "CALL OPT", then press [►].
4 Press [▼] repeatedly to display "CALL BAR", then press [►].
5 Enter "0000" (default handset PIN).
• If you changed PIN, enter it.
6 Press [▼] repeatedly to select "ON" or "OFF", then press [►].
7 Press [↷⊙].

Note:

• While this feature is turned on, the following will be displayed.



6.11. Selecting the Display Language

10 display languages are available.

1 Press [≡].
2 Press [▼] repeatedly to display "SETTING HS", then press [►].
3 Press [▼] repeatedly to display "DISPLAY OPT", then press [►].
4 Press [▼] repeatedly to display "LANGUAGE", then press [►].
5 Press [▼] repeatedly to select the desired language, then press [►].
6 Press [↷⊙].

Note:

- If you select a language you cannot read, reset the handset to its default settings.

6.11.1. Resetting the Handset to its Default Settings

1 Press [≡], [▼], [►], [▲] and [►].
2 Enter "0000" (default handset PIN).
• If you changed PIN, enter it.
3 Press [▼], [►] and [↷⊙].

Note:

- Phonebook entries will not be erased.
- The battery type setting will not be reset.

6.12. Setting Flash/Earth Mode

Select either flash mode or earth mode to suit your PBX or service provider. If you select earth mode, an earth relay must be installed. For further information, consult your nearest Panasonic service centre.

1 Press [☰].
2 Press [▼] repeatedly to display "SETTING BS", then press [▶].
3 Press [3].
4 Enter "0000" (default base unit PIN).
• If you changed PIN, enter it.
5 Press [2].
6 Select the desired setting by pressing [1] for flash mode or [2] for earth mode.
• If you select earth mode, skip to step 8.
7 Select the desired setting by pressing [1] for 80 ms, [2] for 200 ms or [3] for 700 ms.
8 Press [▶], then press [✂⊙].

6.13. Automatic Route Selection

Different telephone carriers charge different rates for call to different areas. If you use different telephone carriers in an effort to save costs, automatic route selection can automatically dial the appropriate carrier code when you make calls to certain area codes according to the way you program this feature.
To use automatic route selection, you must:
- store the carrier codes you use
- store the area codes you want to assign to a specific carrier code
- assign a carrier code to each stored area code
Contact your telephone carrier(s) for calling rates.
Example: You have assigned area code "123" to carrier code "9876".
If you dial "123-4567", the unit dials "9876-123-4567".

6.13.1. Storing Carrier Codes

Store the carrier codes of the telephone carriers you use. You can store up to 5 carrier codes.

1 Press [☰].
2 Press [▼] repeatedly to select "SETTING BS", then press [▶].
3 Press [9].
4 Enter "0000" (default base unit PIN).
• If you changed PIN, enter it.
5 Press [1].
6 Press [1] to [5] to select the desired number to store the code.
7 Enter the carrier code (7 digits max.).
8 Press [☰].
9 Press [✂⊙].

6.13.2. Storing Area Codes

Store the area codes which should be dialled using a specific carrier. You can store up to 25 area codes.

1 Press [▤].
2 Press [▼] repeatedly to select "SETTING BS", then press [▶].
3 Press [9].
4 Enter "0000" (default base unit PIN).
  • If you changed PIN, enter it.
5 Press [2].
6 Enter the area code (5 digits max.).
7 Press [▤].
  • To store other area codes, repeat from step 6.
8 Press [▤].
9 Press [↩⊙].

6.13.3. Assigning Area Codes to Carrier Codes

Assign a carrier code to each area code that you stored. This determines which carrier code is used for calls made to each area code you stored.

1 Press [▤].
2 Press [▼] repeatedly to select "SETTING BS", then press [▶].
3 Press [9].
4 Enter "0000" (default base unit PIN).
  • If you changed PIN, enter it.
5 Press [4].
6 Press [▼] repeatedly to select the desired area code, then press [▶].
7 Press [1] to [5] to select the desired carrier code.
8 Press [▶].
  • To assign an area code to another carrier code, repeat from step 5.
9 Press [↩⊙].

6.13.4. Automatic Route Selection On/Off

1 Press [▤].
2 Press [▼] repeatedly to select "SETTING BS", then press [▶].
3 Press [9].
4 Enter "0000" (default base unit PIN).
  • If you changed PIN, enter it.
5 Press [1].
6 Select the desired setting by pressing [1] for on or [0] for off.
7 Press [▶].
8 Press [↩⊙].

7. DISPLAY

7.1. Handset Display

Icons	Meaning	Icons	Meaning
	Within range of base unit		Call bar is on
	Out of range, no registration or no power on base unit		Direct call is on
	Paging, intercom mode or accessing base unit		Key lock is on
	Making or answering a call		Ringer volume is off
	Phonebook mode		Displayed when you press [⌑]
	Setting mode		
	Battery strength is low		
	Battery strength is high		

For Service Hint:

icon will be displayed if the unit took a signal from Telephone Company as a Voice Message signal.
In that case, press the left button of the Navigator Key for a while.

7.2. Caller ID Service

This unit is Caller ID compatible. To display the caller's phone number, you must subscribe to Caller ID service. After subscribing to Caller ID, this unit will display caller information.
How Caller ID is displayed
The unit will display the calling party's phone number after the first ring. You can view the caller information of the last 50 different callers.
When new calls have been received, the display will show the number of new calls.
The number of new calls will be cleared after viewing all caller information.
Example: 4 new calls have been received.

Note:

- When you receive a call from the same phone number you stored with a name in the phonebook, the display will show the stored name.

- **If the unit is connected to a PBX system, you may not receive the caller information.**
- **When the caller dialled from an area which does not provide Caller ID service, "OUT OF AREA" will be displayed.**
- **When the caller requested not to send caller information, either no information or "PRIVATE" will be displayed.**
- **The display will not show caller information while using the handset for an intercom call. However, the caller information will be stored.**

7.3. Before Requesting Help (Troubleshooting)

If you still have difficulties after following the instructions in this section, disconnect the AC adaptor and turn off the handset, then reconnect the AC adaptor and turn on the handset.

is flashing.

- The handset is not registered to the base unit. Register it.
- The handset is too far from the base unit. Move closer.
- The AC adaptor is not connected. Check the connections.

I cannot make or receive calls.

- The AC adaptor or telephone line cord is not connected. Check the connections.
- If you are using a splitter to connect the unit, remove the splitter and connect the unit to the wall socket directly. If the unit operates properly, check the splitter.
- Disconnect the base unit from the telephone line and connect the line to a known working telephone. If the working telephone operates properly, contact our service personnel to have the unit repaired. If the working telephone does not operate properly, contact your service provider.
- The call bar feature is turned on. Turn it off.
- You dialled a call restricted number.
- The key lock feature is on. Turn it off.

The unit does not ring.

- The ringer volume is turned off. Adjust the handset ringer volume and the base unit ringer volume.

The handset display is blank.

- The handset is not turned on. Turn the power on.

The handset will not turn on.

- Make sure that the batteries are installed correctly.
- Fully charge the batteries.
- Clean the charge contacts and charge again.

The battery should be charging but the battery icon does not change.

- Clean the charge contacts and charge again.
- The AC adaptor is disconnected. Plug in the AC adaptor.

A busy tone is heard when [ ] is pressed.

- The handset is too far from the base unit. Move closer and try again.
- Another handset is on an outside call. Wait for the other user to complete the call.

Static, sound cuts in/out, fades. Interference from other electrical units.

- Locate the handset and the base unit away from other electrical appliances.
- Move closer to the base unit.

The handset stops working while being used.

- Disconnect the AC adaptor and turn off the handset. Connect the AC adaptor, turn on the handset and try again.

While storing an entry in the phonebook or assigning a hot key, the handset starts to ring.

- A call is being received. To answer the call, press [ ]. Programming will be cancelled. Start again.

Pressing [ ] does not display/dial the last number dialled.

- If the redialled number was more than 24 digits long, the number will not be redialled. Redial the number manually.

The handset beeps intermittently and/or flashes.

- Fully charge the batteries.

I fully charged the batteries, but still flashes.

- Clean the charge contacts and charge again.
- It is time to replace the batteries.

disappears and the unit stops charging when the handset is on the base unit.

- Nickel cadmium batteries are inserted when the battery type is set to "NI-MH". Change the battery type setting to "NI-CD".

Caller information is not displayed.

- You must subscribe to Caller ID service.

While viewing caller information, the display returns to standby mode.

- Do not pause for over 60 seconds while searching.

I cannot register a handset to a base unit.

- The maximum number of base units (4) are already registered to the handset. Cancel unused base unit registrations from the handset.
- The maximum number of handsets (6) are already registered to the base unit. Cancel unused handset registrations from the base unit.
- You entered the wrong PIN number. If you forget your PIN, consult your nearest Panasonic service centre.
- Locate the handset and the base unit away from other electrical appliances.

8. OPERATIONS

8.1. Turning the Power On/Off

Power on

Press [⏻] for about 1 second.

• The display will change to the standby mode.

Power off

Press [⏻] for about 2 seconds.

• The display will go blank.

8.2. Setting the Time and Date

Important:

• Confirm that the AC adaptor is connected.

• Ensure that Y is not flashing.

1 Press [☰].

2 Press [▼] repeatedly to display "SETTING BS", then press [▶].

3 Press [✱].

4 Enter the current hour and minute by selecting 2 digits for each (24-hour time entry).
Example: 15:15
Press [1][5] [1][5].
• If you make a mistake, press [C]. Digits will be cleared from the right.

5 Press [▶].
• "SETTING BS" will be displayed.

6 Press [▶], then press [✱] 2 times.

7 Enter the current day, month and year by selecting 2 digits for each.
Example: 17 May, 2004
Press [1][7] [0][5] [0][4].
• If you make a mistake, press [C]. Digits will be cleared from the right.

8 Press [▶].
• "SETTING BS" will be displayed.

9 Press [⏻].

Note:

- If a power failure occurs, set the time and date again.

8.3. Redialling

8.3.1. Making a Call Using the Redial List

The last 10 phone numbers dialled are stored in the redial list.

1 Press [↻].
• The last number dialled will be displayed.

2 Press [▼] repeatedly to select the number.
• To exit the list, press [⏻].

3 Press [✆].

8.3.2. Redialling the Last Number Dialled

Press [✆], then press [↻].

8.4. Phonebook

Up to 20 phone numbers can be stored in the phonebook for quick access.

8.4.1. Storing Phone Numbers and Names

1 Press [▤] 2 times.
2 Enter a phone number (24 digits max.).
- Each number stored in the phonebook will be given an index number (01–20). This number will be shown to the left of the stored phone number.

3 Press [▤].
4 Enter the party's name (9 characters max.; see the character table).
5 Press [▤].
- To store other entries, repeat from step 2.

6 Press [↖⊙].

Character Table

Keys	Characters	Keys	Characters
[1]	# [ ] * , – / 1	[6]	M N O 6
[2]	A B C 2	[7]	P Q R S 7
[3]	D E F 3	[8]	T U V 8
[4]	G H I 4	[9]	W X Y Z 9
[5]	J K L 5	[0]	(Space) 0

Note:
- To enter another character located on the same dial key, press [▶] to move the cursor to the next space.
- If there is no space to store new entries, "MEMORY FULL" will be displayed. Erase unnecessary entries.

Editing a Stored Entry

1 Press [📖].
2 Press [▲] or [▼] repeatedly to display the desired entry, then press [▶].
3 Press [▼] repeatedly to display "EDIT", then press [▶].
- If you do not need to edit the phone number, skip to step 5.

4 Edit the phone number.
5 Press [▤].
- If you do not need to edit the name, skip to step 7.

6 Edit the name. See the character table.
7 Press [▤].

Erasing a Stored Entry

1 Press [📖].
2 Press [▲] or [▼] repeatedly to display the desired entry, then press [▶].
3 Press [▼] repeatedly to display "CLEAR", then press [▶].
4 Press [▼] repeatedly to display "YES", then press [▶].
- To cancel erasing, select "NO".
- To erase other entries, repeat from step 2.

5 Press [↖⊙].

Making Calls Using the Phonebook

Before using this feature, store the desired phone numbers and names into the phonebook.

1 Press [📖].
2 Press [▲] or [▼] repeatedly to display the desired entry.
3 Press [↘].

8.4.2. Storing a Number from the Caller ID List into the Phonebook

1 Press [▲] or [▼] repeatedly to display the desired entry, then press [▶].
2 Press [▼] repeatedly to display "SAVE TEL NO", then press [▶].
3 Press [▤].
4 Enter the party's name (9 characters max.).
5 Press [▤].
6 Press [↖⊙].

8.4.3. Storing a Number from the Redial List into the Phonebook

1 Press [○●].
2 Press [▼] repeatedly to select the number, then press [▶].
3 Press [▼] repeatedly to display "SAVE TEL NO", then press [▶].
4 Press [▤].
5 Enter the name (9 characters max.).
6 Press [▤].

8.4.4. Hot Key (: Quick Dial)

Dial keys [1] to [9] can each be used as a "hot key", allowing you to dial a number from the phonebook by simply pressing a dial key.

Assigning an Entry in the Phonebook to a Hot Key

1 Press [📖].
2 Press [▲] or [▼] repeatedly to display the desired entry, then press [▶].
3 Press [▼] repeatedly to display "HOT KEY REG", then press [▶].
4 Press [▼] repeatedly to select the desired dial key ([1] to [9]), then press [▶].
- If the dial key is already assigned as a hot key, the displayed number will flash.

5 Press [▼] repeatedly to display "YES", then press [▶].
- To register other entries, repeat from step 2.

6 Press [⏻].

Making Calls Using a Hot Key

1 Press and hold the desired hot key ([1] to [9]).
- You can view other hot key registrations by pressing [▲] or [▼].

2 Press [↘].

Erasing a Hot Key

1 Press and hold the desired hot key ([1] to [9]), then press [▶].
- "CLEAR" will be displayed.

2 Press [▶].
3 Press [▼] repeatedly to display "YES", then press [▶].
4 Press [⏻].

Note:

- The number erased from a hot key will not be deleted from the phonebook.

8.5. Registering a Handset to a Base Unit

To register an additional handset to a base unit (easy registration)

The included handset and base unit are preregistered. After purchasing an additional handset, register it to the base unit using the following method.

1 Lift the additional handset and press [⏻].
2 Press and hold [📡] on the left side of the base unit for about 5 seconds, until the registration tone sounds.
3 Place the additional handset on the base unit. The registration tone continues to sound. With the handset still on the base unit, wait until a confirmation tone sounds and 📶 stops flashing.

Note:

- If an error tone sounds, or if 📶 is still flashing, register the handset manually (manual registration).
- If all registered handsets start ringing in step 2, press [📡] to stop, then start again.
- Charge the batteries of your additional handset for about 7 hours before initial use.

To register a handset to an additional base unit (manual registration)

You can register a handset to a base unit manually using the following method.

1 Press [☰].
2 Press [▼] repeatedly to display "SETTING HS", then press [▶].
3 Press [▼] repeatedly to display "REGISTRATION", then press [▶].
4 Press [▼] repeatedly to display "REGISTER HS", then press [▶].
5 Press and hold [📡] on the left side of the base unit for about 5 seconds, until the registration tone sounds.
- After pressing [📡], the rest of the procedure must be completed within 1 minute.

6 Press [▼] repeatedly to select a base unit number, then press [▶].
7 Wait until "BS PIN" is displayed, then enter "0000" (default base unit PIN).
- If you changed PIN, enter it.

8 Press [▶].
- When the handset has been registered successfully, a confirmation tone will sound, and 📶 will stop flashing.

Note:

- If all registered handsets start ringing in step 5, press [📡] to stop, then start again from step 1.

Cancelling a Handset

A maximum of 6 handsets can be registered to a base unit. A handset can cancel its own registration (or the registration of another handset) that is stored in the base unit. This will allow the base unit to "forget" the handset.

1 Press [▤].
2 Press [▼] repeatedly to display "SETTING BS", then press [▶].
3 Press [7].
4 Enter "0000" (default base unit PIN).
   • If you changed PIN, enter it.
5 Press the desired handset number.
   • The selected handset number will flash.
6 Press [▶].
7 Wait until "SETTING BS" is displayed, then press [✂⊙].

Cancelling a Base Unit

A handset can be registered to a maximum of 4 base units. A handset can cancel a base unit that it is registered to. This will allow the handset to "forget" that base unit.

1 Press [▤].
2 Press [▼] repeatedly to display "SETTING HS", then press [▶].
3 Press [▼] repeatedly to display "REGISTRATION", then press [▶].
4 Press [▼] repeatedly to display "CANCEL BS", then press [▶].
5 Enter "0000" (default handset PIN).
   • If you changed PIN, enter it.
6 Press [▼] repeatedly to select the desired base unit number, then press [▶].
   • The selected base unit number will flash.
7 Press [▶].
8 Press [▼] repeatedly to select "YES", then press [▶].
   • To stop cancelling, select "NO".
9 Press [✂⊙].

8.6. Selecting a Base Unit

When "AUTO" is selected, the handset will automatically use any available base unit it is registered to. When a specific base unit is selected, the handset will make and receive calls using that base unit only. If the handset is out of range of that base unit, no calls can be made.

1 Press [▤].
2 Press [▼] repeatedly to display "SETTING HS", then press [▶].
3 Press [▼] repeatedly to display "SELECT BS", then press [▶].
4 Press [▼] repeatedly to display "AUTO" or a specific base unit number, then press [▶].
   • The handset starts searching for the base unit.

Note:

• When a handset is registered to another base unit, this setting will automatically change to that base unit's number even if "AUTO" was selected.

9. DISASSEMBLY INSTRUCTIONS

9.1. Base Unit

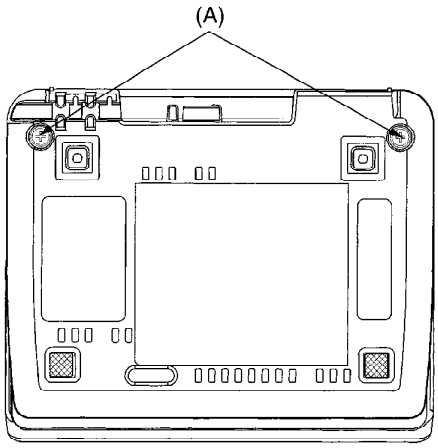


Fig. 1

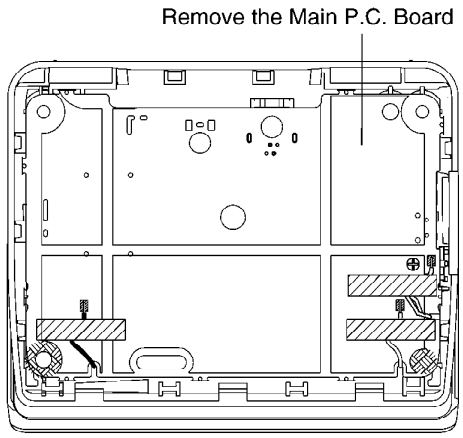


Fig. 2

Shown in Fig.-	To Remove	Remove
1	Lower Cabinet	Screws (2.6 × 12).....(A) × 2
2	Main P.C. Board	Main P.C. Board

9.2. Handset

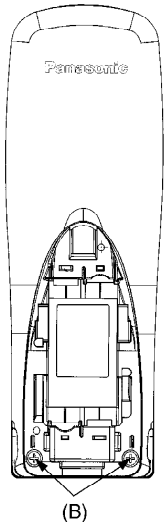


Fig. 3

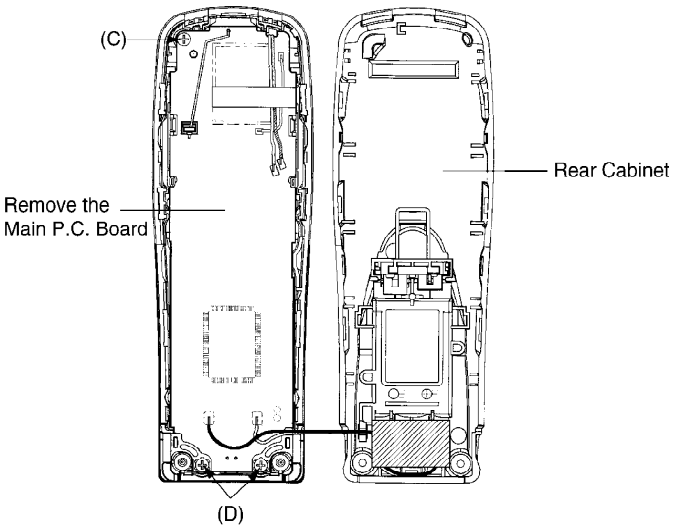


Fig. 5

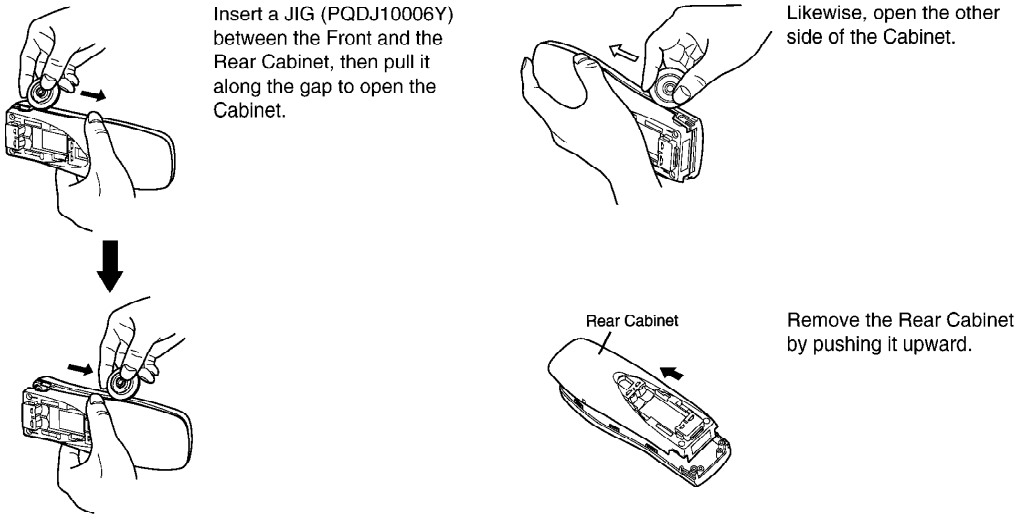

Insert a JIG (PQDJ10006Y) between the Front and the Rear Cabinet, then pull it along the gap to open the Cabinet.
Likewise, open the other side of the Cabinet.
Rear Cabinet
Remove the Rear Cabinet by pushing it upward.

Fig. 4

Shown in Fig.-	To Remove	Remove
3	Rear Cabinet	Screws (2 × 10).....(B) × 2
4	Rear Cabinet	Follow the procedure.
5	Main P.C. Board	Screw (2 × 8).....(C) × 1
		Screws (2 × 8).....(D) × 2
		Main P.C. Board

9.3. Charger Unit

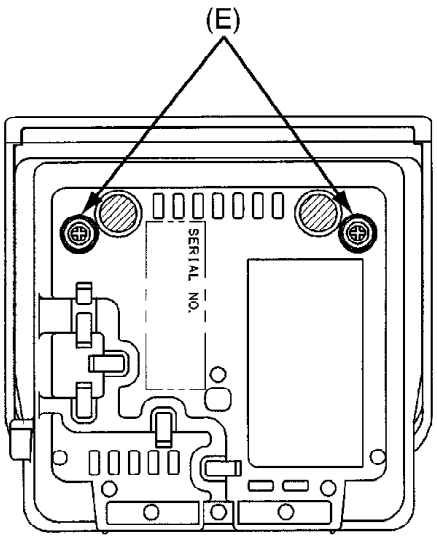


Fig. 6

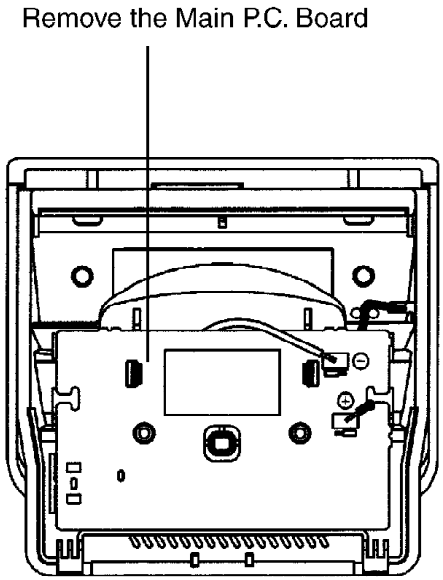


Fig. 7

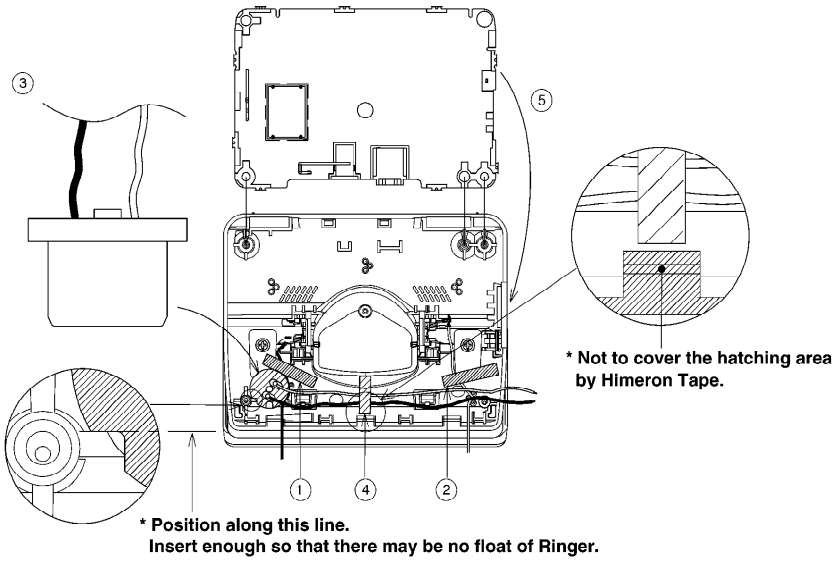
Shown in Fig.-	To Remove	Remove
6	Lower Cabinet	Screws (2.6 × 14).....(E) × 2
7	Main P.C. Board	Main P.C. Board

10. ASSEMBLY INSTRUCTIONS

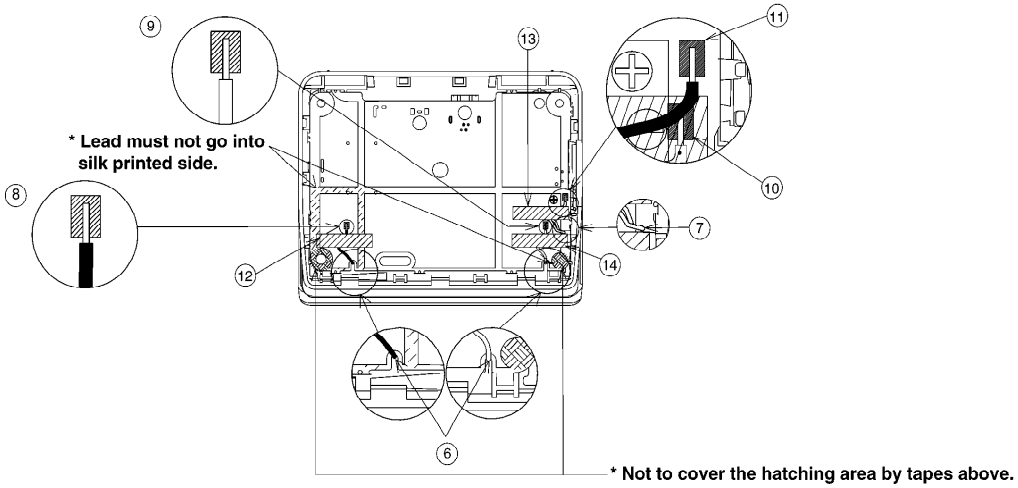
10.1. Warning When Constructing the Base Unit

10.2. Processing of Ringer Lead

① ~ ② Fix Charge Lead with Himeron Tape.
③ Attach Ringer to Cabinet.
④ Fix Charge Lead with Himeron Tape.
⑤ Attach P.C.B to Cabinet.

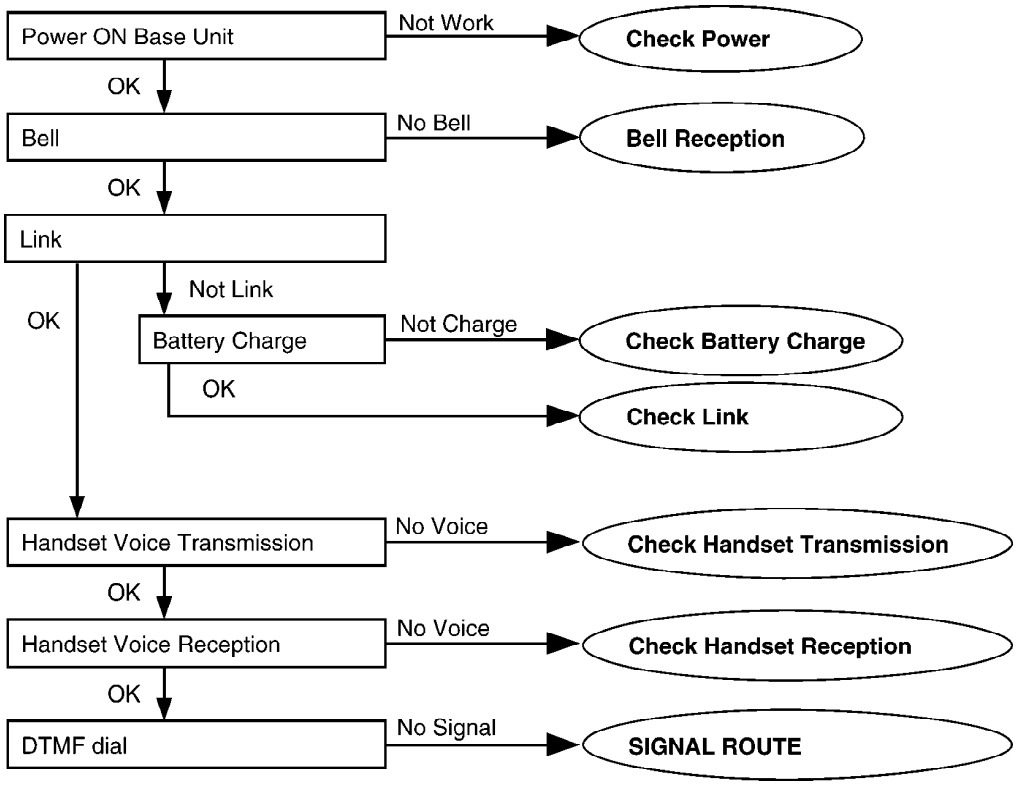

* Not to cover the hatching area
by Himeron Tape.
* Position along this line.
Insert enough so that there may be no float of Ringer.

⑥ Pull out Charge Lead Wire through the slit of P. C. B.
⑦ Pull out Charge Lead Wires (2 pieces) through the slit of P. C. B.
⑧ ~ ⑪ Solder Lead Wires to P. C.B.
⑫ ~ ⑭ Fix Lead Wire with Himeron Tape.



11. TROUBLESHOOTING GUIDE

Flow Chart

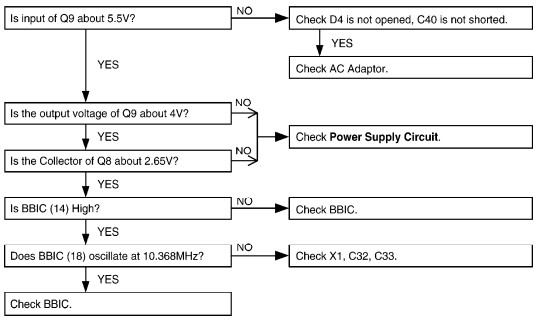


Cross Reference:
Check Power ()
Bell Reception ()
Check Battery Charge ()
Check Link ()
Check Handset Transmission ()
Check Handset Reception ()
SIGNAL ROUTE ()

11.1. Check Power

11.1.1. Base Unit

Is the AC Adaptor inserted into AC outlet? (Check AC Adaptor's specification.)

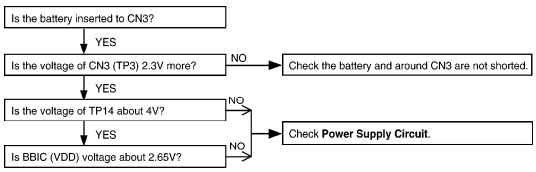


Cross Reference

Power Supply Circuit ()

Note:
BBIC is IC2.

11.1.2. Handset

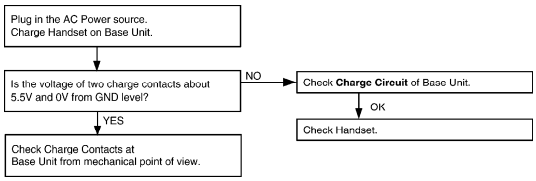


Cross Reference
Power Supply Circuit/Reset Circuit ()

Note:
BBIC is IC1.

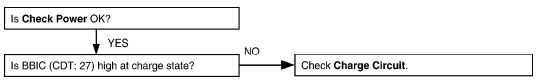
11.2. Check Battery Charge

11.2.1. Base Unit


Plug in the AC Power source.
Charge Handset on Base Unit.
Is the voltage of two charge contacts about 5.5V and 0V from GND level?
NO
Check Charge Circuit of Base Unit.
OK
Check Handset.
YES
Check Charge Contacts at
Base Unit from mechanical point of view.

Cross Reference:
Charge Circuit ()

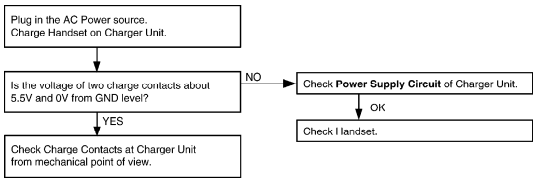
11.2.2. Handset



Cross Reference:
Check Power ()
Charge Circuit ()

Note:
BBIC is IC1.

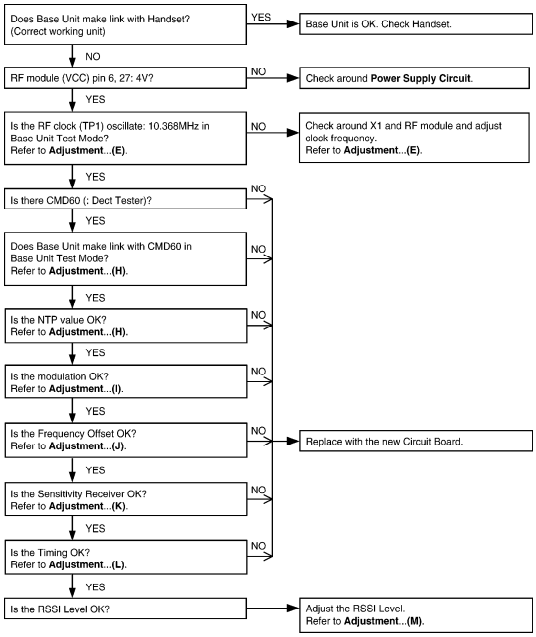
11.2.3. Charger Unit


Plug in the AC Power source.
Charge Handset on Charger Unit.
Is the voltage of two charge contacts about 5.5V and 0V from GND level?
NO
Check Power Supply Circuit of Charger Unit.
OK
Check Handset.
YES
Check Charge Contacts at Charger Unit from mechanical point of view.

Cross Reference:
Power Supply Circuit ()

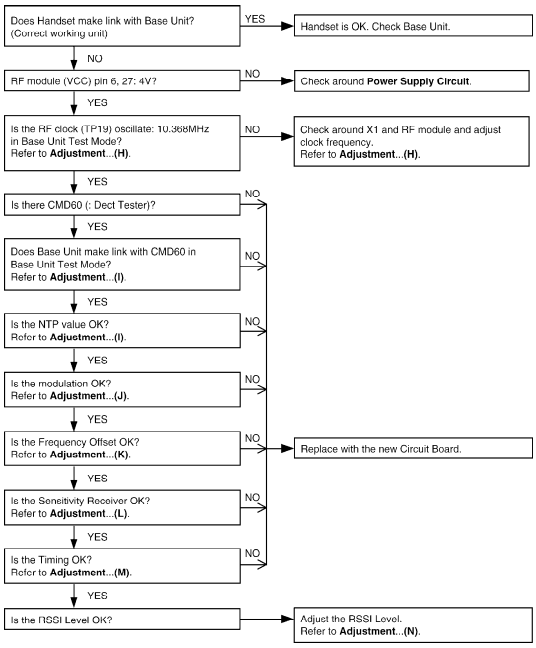
11.3. Check Link

11.3.1. Base Unit


Does Base Unit make link with Handset? (Correct working unit)
YES
Base Unit is OK. Check Handset.
NO
RF module (VCC) pin 6, 27: 4V?
NO
Check around Power Supply Circuit.
YES
Is the RF clock (TP1) oscillate: 10.368MHz in Base Unit Test Mode? Refer to Adjustment...(E).
NO
Check around X1 and RF module and adjust clock frequency. Refer to Adjustment...(E).
YES
Is there CMD60 (: Dect Tester)?
NO
YES
Does Base Unit make link with CMD60 in Base Unit Test Mode? Refer to Adjustment...(H).
NO
YES
Is the NTP value OK? Refer to Adjustment...(H).
NO
YES
Is the modulation OK? Refer to Adjustment...(I).
NO
YES
Is the Frequency Offset OK? Refer to Adjustment...(J).
NO
Replace with the new Circuit Board.
YES
Is the Sensitivity Receiver OK? Refer to Adjustment...(K).
NO
YES
Is the Timing OK? Refer to Adjustment...(L).
NO
YES
Is the RSSI Level OK?
Adjust the RSSI Level. Refer to Adjustment...(M).

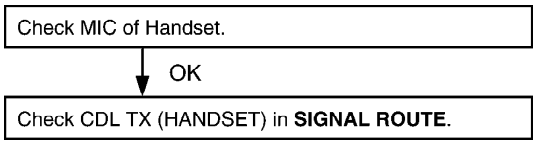
Cross Reference:
Power Supply Circuit ()
Adjustment (Base Unit) ()

11.3.2. Handset


Does Handset make link with Base Unit? (Correct working unit)
YES
Handset is OK. Check Base Unit.
NO
RF module (VCC) pin 6, 27: 4V?
NO
Check around Power Supply Circuit.
YES
Is the RF clock (TP19) oscillate: 10.368MHz in Base Unit Test Mode? Refer to Adjustment...(H).
NO
Check around X1 and RF module and adjust clock frequency. Refer to Adjustment...(H).
YES
Is there CMD60 (: Dect Tester)?
NO
YES
Does Base Unit make link with CMD60 in Base Unit Test Mode? Refer to Adjustment...(I).
NO
YES
Is the NTP value OK? Refer to Adjustment...(I).
NO
YES
Is the modulation OK? Refer to Adjustment...(J).
NO
YES
Is the Frequency Offset OK? Refer to Adjustment...(K).
NO
Replace with the new Circuit Board.
YES
Is the Sensitivity Receiver OK? Refer to Adjustment...(L).
NO
YES
Is the Timing OK? Refer to Adjustment...(M).
NO
YES
Is the RSSI Level OK?
Adjust the RSSI Level. Refer to Adjustment...(N).

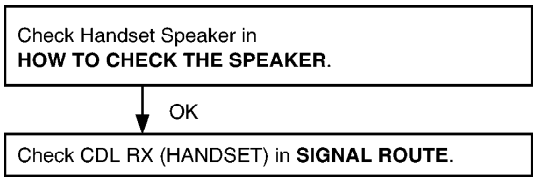
Cross Reference
Power Supply Circuit ()
Adjustment (Handset) ()

11.4. Check Handset Transmission



Cross Reference:
SIGNAL ROUTE ()

11.5. Check Handset Reception



Cross Reference:
HOW TO CHECK THE HANDSET SPEAKER ().
SIGNAL ROUTE ()

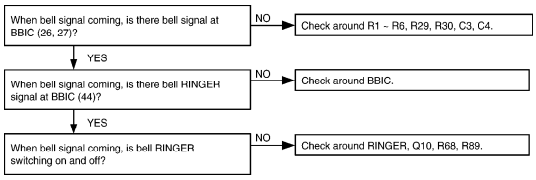
11.6. Check Caller ID

Check Caller ID in **SIGNAL ROUTE**.

Cross Reference:
SIGNAL ROUTE ()

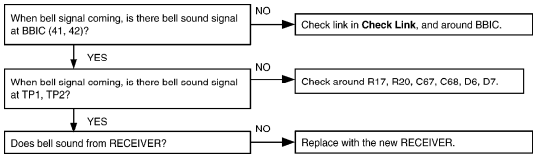
11.7. Bell Reception

11.7.1. Base Unit


When bell signal coming, is there bell signal at BBIC (26, 27)?
NO
Check around R1 ~ R6, R29, R30, C3, C4.
YES
When bell signal coming, is there bell HINGEH signal at BBIC (44)?
NO
Check around BBIC.
YES
When bell signal coming, is bell RINGER switching on and off?
NO
Check around RINGER, Q10, R68, R89.

Note:
BBIC is IC2.

11.7.2. Handset


When bell signal coming, is there bell sound signal at BBIC (41, 42)?
NO
Check link in Check Link, and around BBIC.
YES
When bell signal coming, is there bell sound signal at TP1, TP2?
NO
Check around R17, R20, C67, C68, D6, D7.
YES
Does bell sound from RECEIVER?
NO
Replace with the new RECEIVER.

Cross Reference:
Telephone Line Interface ()
Check Link ()

Note:
BBIC is IC1.

12. CHECK PROCEDURE (BASE UNIT)

12.1. Preparation

12.1.1. Equipment Required

- DECT tester: Rohde & Schwarz, CMD 60 is recommended.

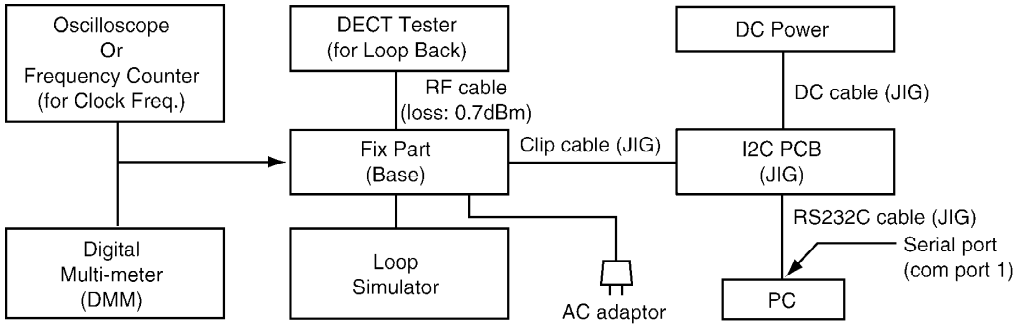
- Frequency counter: it must be precise to be able to measure 1Hz (precision; ±4ppm).
  Hewlett Packard, 53131A is recommended.
- DC power: it must be able to output at least 1A current under 9V.
- Digital multi-meter (DMM): it must be able to measure voltage and current.
- Oscilloscope

12.1.2. JIGs and PC

- EEPROM serial JIGs
  1. I2C PCB: PQZZTCD705BX
  2. RS232C cable: PQZZ1CD705BX
  3. Clip cable: PQZZ2CD705BX
  4. DC cable: PQZZ3CD705BX
- PC which runs in DOS mode
- Batch file for setting: PQZZTCD430G

12.2. PC Setting

12.2.1. Connections



12.2.2. PC Setting

1. Open a window of MS-DOS mode from the start-up menu.
2. Change a directory to the one with “RTX_COM” contained.
3. Type “SET RTX_COM=1” from the keyboard (when COM port 1 is used for the connection).
4. Type “doskey”.

Note:
See the table below for frequently used commands.

Command name	Function	Example
rdeeprom	Read the data of EEPROM	Type “rdeeprom 00 00 FF”, and the data from address “00 00” to “FF” is read out.
readid	Read ID (RFPI)	Type “readid”, and the registered ID is read out.
writeid	Write ID (RFPI)	Type “writeid 00 18 E0 0E 98”, and the ID “0018 E0 0E 98” is written.
setfreq	adjust Frequency of RFIC	Type “setfreq nn nn”.
hookoff	off-hook mode on Base	Type “hookoff”.
hookon	on-hook mode on Base	Type “hookon”.
Getchk	Read checksum	Type “getchk”.
Wreeprom	write eeprom	Type "wreeprom 01 23 45". "01 23" is address and "45" is data to be written.
InitBsPIN.bat	Initial Base PIN to "0000"	Type "initBsPIN"

13. CHECK PROCEDURE (HANDSET)

13.1. Preparation

13.1.1. Equipment Required

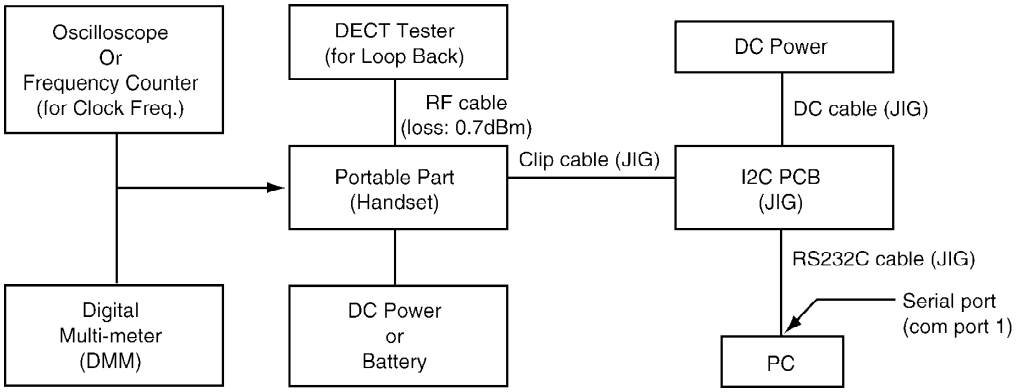
- DECT tester: Rohde & Schwarz, CMD 60 is recommended.
- Frequency counter: it must be precise to be able to measure 1Hz (precision; ± 4ppm).
  Hewlett Packard, 53131A is recommended.
- DC power: it must be able to output at least 1A current under 2.4V for Handset, 9V for JIG.
- Digital multi-meter (DMM): it must be able to measure voltage and current.
- Oscilloscope

13.1.2. JIGs and PC

- EEPROM serial JIGs
  1. I2C PCB: PQZZTCD705BX
  2. RS232C cable: PQZZ1CD705BX
  3. Clip cable: PQZZ2CD705BX
  4. DC cable: PQZZ3CD705BX
- PC which runs in DOS mode.
- Batch file for PC setting: PQZZTCD430G

13.2. PC Setting

13.2.1. Connections



13.2.2. PC Setting

1. **Open a window of MS-DOS mode from the start-up menu.**
2. **Change a directory to the one with “RTX_COM” contained.**
3. **Type “SET RTX_COM=1” from the keyboard (when COM port 1 is used for the connection).**
4. **Type “doskey”.**

Note:
See the table below for frequently used commands.

Command name	Function	Example
rdeeprom	Read the data of EEPROM	Type “rdeeprom 00 00 FF”, and the data from address “00 00” to “FF” is read out.
readid	Read ID (RFPI)	Type “readid”, and the registered ID is read out.
writeid	Write ID (RFPI)	Type “writeid 00 18 E0 0E 98”, and the ID “0018 E0 0E 98” is written.
setfreq	adjust Frequency of RFIC	Type “setfreq nn nn”.
Getchk	Read checksum	Type “getchk”.
Wreeprom	write eeprom	Type "wreeprom 01 23 45". "01 23" is address and "45" is data to be written.

14. ADJUSTMENTS (BASE UNIT AND CHARGER UNIT)

If your unit have below symptoms, adjust or confirm each item using remedy column from the table.

Symptom	Remedy
The base unit does not respond to a call from handset.	Make adjustments in item (I)~(M)
The base unit does not transmit or the transmit frequency is off.	Make adjustments in item (H)~(J), (L)
The transmit frequency is off.	Make confirmation in item (H)~(J), (L)
The transmit power output is low, and the operating distance between base unit and handset is less than normal.	Make confirmation in item
The reception sensitivity of base unit is low with noise.	Make confirmation in item
The transmit level is high or low.	Make adjustments in item
The reception level is high or low.	Make adjustments in item
The unit does not link.	Make confirmation in item
The unit cannot charge.	Make confirmation in item

*** : Refer to Adjustment (Base Unit) ()**

14.1. Adjustment (Base Unit)

Please follow the items below when BBIC or EEPROM are replaced.

	Items	Adjustment Point	Procedure*	
(A)	2.65V Supply Confirmation	-	1. Confirm that the voltage between TP187 and GND is 2.65V ± 0.2V.	I C2 D C

<table>
<tr><th></th><th>Items</th><th>Adjustment Point</th><th>Procedure*</th></tr>
<tr><td>(B)</td><td>4.0V Supply Confirmation</td><td>-</td><td>1. Confirm that the voltage between TP91 and GND is 4.0V ± 0.2V.</td></tr>
<tr><td>(C)</td><td>VBACK Status Confirmation</td><td>-</td><td>1. Confirm that the voltage between J102 and GND is 0V ± 0.4V.</td></tr>
<tr><td>(D)
*</td><td>BBIC Confirmation</td><td>-</td><td>1. BBIC Confirmation (Execute the command "getchk").
2. Confirm the returned checksum value.

Connection of checksum value and program number is shown below.

ex.)<table><tr><th>checksum value</th><th>program number</th></tr><tr><td>4604</td><td>D441ZA</td></tr></table></td></tr>
<tr><td>(E)
*</td><td>BBIC Clock Adjustment (Important)</td><td>TP1</td><td>1. Execute the command "deactmac".
2. Execute the command "conttx".
3. Input Command “rdeeprom 00 00 02”, then you can confirm the current value.
4. Adjust the frequency of TP1 executing the command "setfreq 00 xx (where xx is the value)" so that the reading of the frequency counter is 10.368000MHz ± 3Hz.</td></tr>
<tr><td>(F)
*</td><td>Hookswitch Check with DC Characteristics</td><td>-</td><td>1. Connect J1 (Telephone Socket) to Tel-simulator which is connected with 600 Ω.
2. Set line voltage to 48V at on-hook condition and line current to 40mA at off-hook condition of nomal telephone.
3. Execute the command "hookoff"
4. Confirm that the line current is 40mA ± 5mA.
5. Execute the command "hookon".
6. Confirm that the line current is 0mA + 2mA.</td></tr>
</table>

	Items	Adjustment Point	Procedure*	
(G)*	DTMF Generator Confirmation	-	1. Connect J1 (Telephone Socket) to DTMF tester. 2. Execute the command "hookoff" and "dtmf_up". 3. Confirm that the high frequency (1477.06Hz) group is -6.5dBm ~ -9.5dBm. 4. Execute the command "dtmf_lo". 5. Confirm that the low frequency (852.05Hz) group is -9.0dBm ~ -12.0dBm.	IC C R C I
(H)*	Transmitted Power Confirmation	-	Remove the Antenna before starting step from 1 to 4. 1. Configure the DECT tester (CMD60) as follows; <Setting> -Test mode: FP -Traffic Channel: 5 -Traffic Slot: 4 -Mode: Loopback -PMID: 0000 2. Execute the command "testmode". 3. Initiate connection from DECT tester. (“set up connect”) 4. Confirm that the NTP value at ANT is 20dBm ~ 25dBm.	I C C DA R

	Items	Adjustment Point	Procedure*	
(I)	Modulatoin Check and Adjustment	ANT	Follow steps 1 to 3 of (H) above. 4. Confirm that the B-Field Modulation is 340kHz/div ~ 402kHz/ div using data type Fig31. 5. Adjust the B-Field Modulation if required. (Execute the command "readmod" and "wrtmod xx", where xx is the value.)	I C C D R
(J)	Frequency Offset Confirmation	-	Follow steps 1 to 3 of (H) above. 4. Confirm that the frequency offset is -50kHz ~ +50kHz.	I C C D R

	Items	Adjustment Point	Procedure*	
(K)	Sensitivity Receiver Confirmation	-	Follow steps 1 to 3 of (H) above. 4. Set DECT tester power to -88dBm. 5. Confirm that the BER is < 1000ppm.	I C C D R
(L)	Timing Confirmation	-	Follow steps 1 to 3 of (H) above. 4. Confirm that the Timing accuracy is < ± 2.0ppm.	I C C D R

	Items	Adjustment Point	Procedure*	
(M) *	RSSI Level Confirmation	-	Follow steps 1 to 3 of (H) above. 4. Set DECT tester power to -88dBm. 5. Execute the command "readrssi". 6. Confirm: 25 < returned value < 43 (hex) (0x34 ± F (hex))	
(N) *	Receive Audio Check and Adjustment	ANT J1	1. Configure the DECT tester (CMD60) as follows; <Setting> -Test mode: FP -Mode: Normal -PMID: 0000 2. Execute the command "testmode". 3. Initiate connection from DECT tester. 4. Execute the command "hookoff". 5. Execute the command "openau". 6. Connect J1 (Telephone Socket) to Tel-simulator which is connected with 600 Ω. 7. Set line voltage to 48V and line current to 40mA. 8. Connect DECT tester to Tel-simulator. 9. Input audio signal (200mVrms/1kHz tone) to Tel-simulator. <DECT tester setting> -Scramble: On -AF Gen to ADPCM: Off -AF Meter Input: ADPCM -AF Gen Frequency: 1000Hz -AF Gen Level: 200mVrms 10. Confirm hearing tone: 300mVrms ± 100mVrms 11. Adjust audio level if required. (Make sure current value using "getmicgain". And then execute the command "setmicgain xx", where xx is the value.) 12. Confirm that the B-field audio distortion with DECT tester is < 5 %.	

	Items	Adjustment Point	Procedure*
(O) *	Transmit Audio Check and Adjustment	ANT J1	1. Configure the DECT tester (CMD60) as follows; <Setting> -Test mode: FP -Mode: Normal -PMID: 0000 2. Execute the command "testmode". 3. Initiate connection from DECT tester. 4. Execute the command "hookoff". 5. Execute the command "openau". 6. Connect J1 (Telephone Socket) to Tel-simulator which is connected with 600 Ω. 7. Set line voltage to 48V and line current to 40mA. 8. Input audio signal (30mVrms/1kHz tone) to DECT tester. <DECT tester setting> -Scramble: On -AF Gen to ADPCM: On -AF Meter Input: AF Voltm -AF Gen Frequency: 1000Hz -AF Gen Level: 30mVrms 9. Confirm hearing tone: 330mVrms ± 100mVrms. 10. Adjust audio level if required. (Make sure current value using "getspkrgain". And then execute the command "setspkrgain xx", where xx is the value.) 11. Confirm that the audio distortion at 600R of Tel-simulator is < 5 %.
(P)	Charging Check	-	1. Connect Charge Contact 12 Ω/2W register between charge+ and charge-. 2. Measure and confirm voltage across the regigster is 2.3V ± 0.2V.

Note:
After the measuring, sock up the solder of TP.
*** : PC Setting () is required beforehand.**
The connection of adjustment equipment are as shown in Adjustment Standard (Base Unit) ().

14.2. Adjustment Standard (Base Unit)

When connecting the Simulator Equipments for checking, please refer to below.

14.2.1. Component View

Note:
(H) - (M) is refered to ADJUSTMENTS (BASE UNIT AND CHARGER UNIT) ()

14.2.2. Flow Solder Side View

Note:
(A) - (P) is refered to ADJUSTMENTS (BASE UNIT AND CHARGER UNIT) ()

14.3. Adjustment (Charger Unit)

	Items	Adjustment Point	Procedure
(A)	Charging Check	-	1. Connect Charge Contact 12 Ω /2W register between charge+ and charge-. 2. Measure and confirm voltage across the regigster is 2.7V ± 0.2V.

Note:
After the measuring, sock up the solder of TP.
The connection of adjustment equipment are as shown in Adjustment Standard (Charger Unit) ().

14.4. Adjustment Standard (Charger Unit)

When connecting the Simulator Equipments for checking, please refer to below.

14.4.1. Flow Solder Side View

Note:
(A) is refered to ADJUSTMENTS (BASE UNIT AND CHARGER UNIT) ()

15. ADJUSTMENTS (HANDSET)

If your unit have below symptoms, adjust or confirm each item using remedy column from the table.

Symptom	Remedy
The movement of Battery Low indicator is wrong.	Make confirmation in item (F)~(G)
The handset does not respond to a call from base unit.	Make adjustments in item (H), (J)~(N)
The handset does not transmit or the transmit frequency is off.	Make adjustments in item (H)~(K), (M)
The transmit frequency is off.	Make confirmation in item (H)~(K), (M)
The transmit power output is low, and the operating distance between base unit and handset is less than normal.	Make confirmation in item
The reception sensitivity of base unit is low with noise.	Make confirmation in item
Does not link between base unit and handset.	Make confirmation in item (H)~(N)
The reception level is high or low.	Make adjustments in item
The transmit level is high or low.	Make adjustments in item

*** : Refer to Adjustment (Handset) ()**

15.1. Adjustment (Handset)

Please follow the items below when BBIC or EEPROM are replaced.

	Items	Adjustment Point	Procedure*	
(A)	4.0V Supply Confirmation	-	1. Confirm that the consumption current is < 200mA , that is, there is no short circuit. 2. Confirm that the voltage between TP14 and GND is 4.1V ± 0.2V.	I F D C F C

<table>
<tr><th></th><th>Items</th><th>Adjustment Point</th><th>Procedure*</th></tr>
<tr><td>(B)</td><td>VBACK Status Confirmation</td><td>-</td><td>1. Confirm that the voltage between TP18 and GND is 0V ± 0.4V.</td></tr>
<tr><td>(C)</td><td>BBIC Confirmation</td><td>-</td><td>1. BBIC Confirmation (Execute the command "getchk").
2. Confirm the returned checksum value.

Connection of checksum value and program number is shown below.
ex.)<table><tr><th>checksum value</th><th>program number</th></tr><tr><td>6940</td><td>D452ZA</td></tr></table></td></tr>
<tr><td>(D)</td><td>Charge Control Check & Charge Current Monitor Confirmation</td><td>-</td><td>1. Apply 6V between TP20(+) and TP21(-) with current limit of PSU to 250mA.
2. Confirm that the charge current is ON/OFF.
3. SW to decrease current limit of PSU to 100mA.
4. Confirm that the charge current is stable.</td></tr>
<tr><td>(E) *</td><td>Charge Detection (OFF) Confirmation</td><td>-</td><td>1. Stop supplying 6V to TP20(+) and TP21(-).
2. Execute the command "charge".
3. Confirm that the returned value is 0x00 (hex).</td></tr>
<tr><td>(F) *</td><td>Battery Monitor Confirmation & Adjustment (Important)</td><td>-</td><td>1. Apply 2.3V ± 0.005V between TP3(+) and TP4(-).
2. Execute the command "readbatt".
3. Confirm:
98 < returned value < A8 (Hex)
4. Execute the command "WRTBAT2 XX".
XX: (returned value) - 06 (Hex)</td></tr>
</table>

	Items	Adjustment Point	Procedure*	
(G)	Battery low Confirmation (Important)	-	1. Apply 2.40V between TP3(+) and TP4(-). 2. Confirm that there is no Speaker sound (Battery low alarm). 3. Apply 2.20V between TP3(+) and TP4(-). 4. Confirm that there is Speaker sound (Battery low alarm).	I C1
(H)*	BBIC Clock Adjusment (Important)	TP19	1. Execute the command "deactmac". 2. Execute the command "conttx". 3. Input Command “rdeeprom 00 00 02”, then you can confirm the current value. 4. Adjust the frequency of TP19 executing thecommand "setfreq 00 xx (where xx is the value)" so that the reading of the frequency counter is 10.368000MHz ± 3Hz.	I I
(I)*	Transmitted Power Confirmation	TP15	Remove the Antenna before starting step from 1 to 5. 1. Configure the DECT tester(CMD60) as follows; <Setting> -Test mode: PP -RFPI: 0102030405 -Traffic Channel: 5 -Traffic Slot: 4 -Mode: Loopback 2. Execute the command "testmode". 3. Execute the command "regcmd60" 4. Initiate connection from DECT tester. 5. Confirm that the NTP value at A201 (TP15) is 20dBm ~ 25dBm	I L R2
(J)	Modulatoin Check and Adjusment	TP15	Follow steps 1 to 4 of (I) above. 5. Confirm that the B-Field Modulation is 340kHz/div ~ 402kHz/ div using data type Fig31. 6. Adjust the B-Field Modulation if required. (Execute the command "Readmod" and "Writemod xx", where xx is the value.)	I L R2
(K)	Frequency Offset Confirmation	-	Follow steps 1 to 4 of (I) above. 5. Confirm that the frequency offset is -50kHz ~ +50kHz.	I L R2

	Items	Adjustment Point	Procedure*	
(L)	Sensitivity Receiver Confirmation	-	Follow steps 1 to 4 of (I) above. 5. Set DECT tester power to -88dBm. 6. Confirm that the BER is < 1000ppm.	IC L R2
(M)	Timing Confirmation	-	Follow steps 1 to 4 of (I) above. 5. Confirm that the Timing accuracy is < ± 2.0ppm.	IC L R2
(N) *	RSSI Level Confirmation	-	Follow steps 1 to 4 of (I) above. 5. Set DECT tester power to -88dBm. 6. Execute the command "readrssi" 7. Confirm: 25 < returned value < 43 (hex) (0x34 ± F (hex))	IC L R2

	Items	Adjustment Point	Procedure*	
(O) *	Receive Audio Check and Confirmation	TP15	1. Configure the DECT tester (CMD60) as follows; <Setting> -Test mode: PP -Mode: Nomal -RFPI: 0102030405 2. Execute the command "testmode". 3. Execute the command "regcmd60" 4. Initiate connection from DECT tester. 5. Execute the command "openaudio". 6. Confirm that the value of EEPROM address "F3F" is "02". (If the value is not "02 (by User)", set "02" and power off and power on, and return to clause 2.) 7. Input audio signal (50mVrms/1kHz tone) from DECT tester. <DECT tester setting> -Scramble: On -AF Gen to ADPCM: On -AF Meter Input: AF Voltm -AF Gen Frequency: 1000Hz -AF Gen Level: 50mVrms 8. Confirm hearing tone: 300mV ± 250mV (Just check Audio path) 9. Confirm that the audio distortion with DECT tester is < 5 %.	IC D C C(
(P)	Transmit Audio Check and Confirmation	TP15	1. Configure the DECT tester (CMD60) as follows; <Setting> -Test mode: FP -Mode: Normal -RFPI: 0102030405 2. Execute the command "testmode". 3. Execute the command "regcmd60". 4. Initiate connection from DECT tester. 5. Execute the command "openaudio". 6. Confirm that the value of EEPROM address "F3F" is "02". (If the value is not "02 (by User)", set "02" and power off and power on, and return to clause 2.) 7. Input audio signal (30mVrms/1kHz tone) to DECT tester. <DECT tester setting> -Scramble: On -AF Gen to ADPCM: Off -AF Meter Input: ADPCM -AF Gen Frequency: 1000Hz -AF Gen Level: 30mVrms 8. Confirm hearing tone: 300mV ± 250mV (Just check Audio path) 9. Confirm that the audio distortion with DECT tester is < 5 %.	I((IC C5 R2

Note:
After the measuring, sock up the solder of TP.
*** : PC Setting () is required beforehand.**
The connection of adjustment equipment are as shown in Adjustment Standard (Handset) ().

15.2. Adjustment Standard (Handset)

When connecting the Simulator Equipments for checking, please refer to below.

Note:
(A) - (P) is refered to ADJUSTMENTS (HANDSET) ()

16. RF SPECIFICATION

16.1. Base Unit

Item	Value	Refer to -. *	Remar
TX Power	More than 20 dBm ~ 25 dBm	Adjustment (Base Unit) (H)	
Modulation	340 kHz/div ~ 402 kHz/ div	Adjustment (Base Unit) (I)	Data type:
Frequency Offset	-50 kHz ~ +50 kHz	Adjustment (Base Unit) (J)	
RX Sensitivity	< 1000 ppm	Adjustment (Base Unit) (K)	
Timing Accuracy	< ± 2.0 ppm	Adjustment (Base Unit) (L)	
RSSI Level	0x34 hex ± F hex	Adjustment (Base Unit) (M)	

*** : Refer to Adjustment (Base Unit) ()**

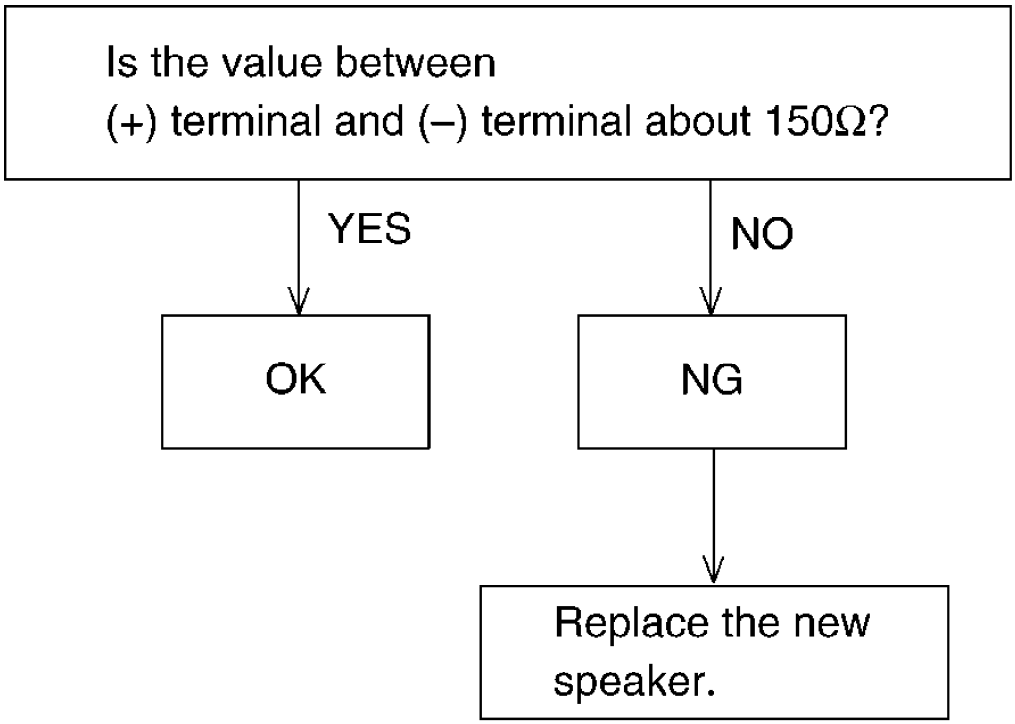
16.2. Handset

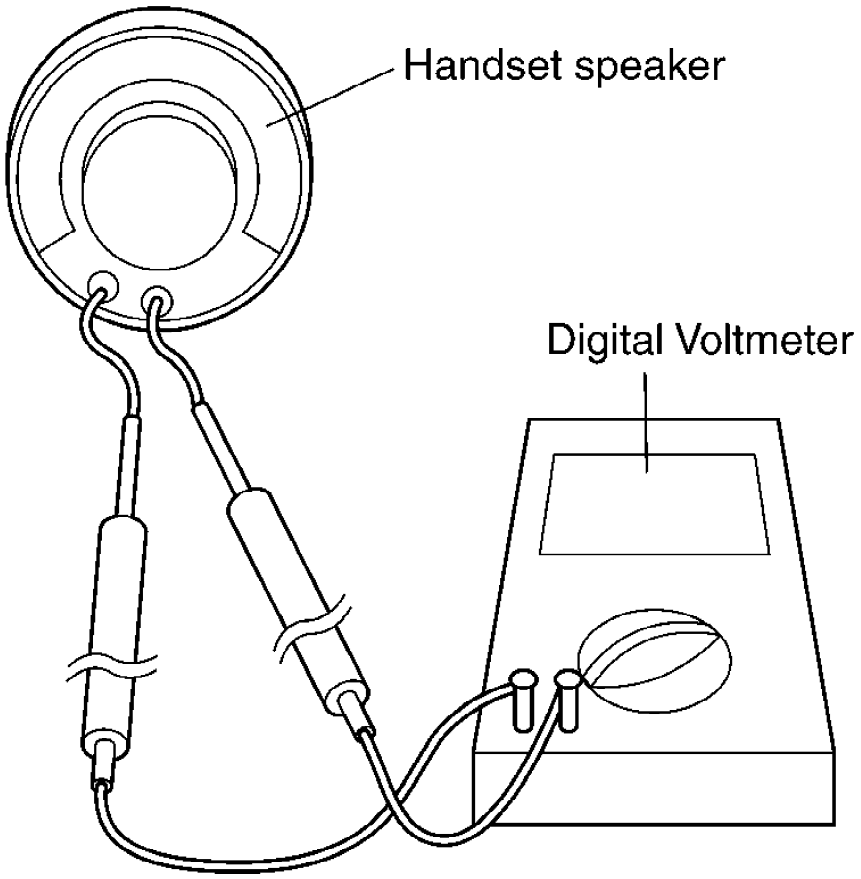
Item	Value	Refer to -. **	Remar
TX Power	More than 20 dBm ~ 25 dBm	Adjustment (Handset) (I)	
Modulation	340 kHz/div ~ 402 kHz/ div	Adjustment (Handset) (J)	Data type:
Frequency Offset	-50 kHz ~ +50 kHz	Adjustment (Handset) (K)	
RX Sensitivity	< 1000 ppm	Adjustment (Handset) (L)	
Timing Accuracy	< ± 2.0 ppm	Adjustment (Handset) (M)	
RSSI Level	0x34 hex ± F hex	Adjustment (Handset) (N)	

**** : Refer to Adjustment (Handset) ()**

17. HOW TO CHECK THE HANDSET SPEAKER

1. **Prepare the digital voltmeter, and set the selector knob to ohm meter.**
2. **Put the probes at the speaker terminals as shown below.**





18. FREQUENCY TABLE (MHz)

	BASE UNIT		HANDSET	
Channel No	Transmit Frequency	Receive Frequency	Transmit Frequency	Receive Fr
1	1897.344	1897.344	1897.344	1897.3
2	1895.616	1895.616	1895.616	1895.6
3	1893.888	1893.888	1893.888	1893.8
4	1892.160	1892.160	1892.160	1892.1
5	1890.432	1890.432	1890.432	1890.4
6	1888.704	1888.704	1888.704	1888.7
7	1886.976	1886.976	1886.976	1886.9
8	1885.248	1885.248	1885.248	1885.2
9	1883.520	1883.520	1883.520	1883.5
10	1881.792	1881.792	1881.792	1881.7

Note:
Channel No. 10: In the Test Mode on Base Unit and Handset.

19. BLOCK DIAGRAM (BASE UNIT)

20. CIRCUIT OPERATION (BASE UNIT)

20.1. Outline

Base Unit consists of the following ICs as shown in BLOCK DIAGRAM (BASE UNIT) ().

- DECT BBIC (Base Band IC): IC2
- Handling all the audio, signal and data processing needed in a DECT base unit
- Controlling the DECT specific physical layer and radio section (B urst Module Controller section)
- ADPCM codec filter for speech encoding and speech decoding (DSP section)
- Echo-cancellation and Echo-suppression (DSP section)
- Any tones (tone, sidetone, ringing tone, etc.) generation (DSP section)
- DTMF receiver (DSP section)
- Clock Generation for RF Module
- ADC, DAC, timer, and power control circuitry
- All interfaces (ex: RF module, EEPROM, LED, Analog Front End, etc.)
- RF Module: IC3
- PLL Oscillator

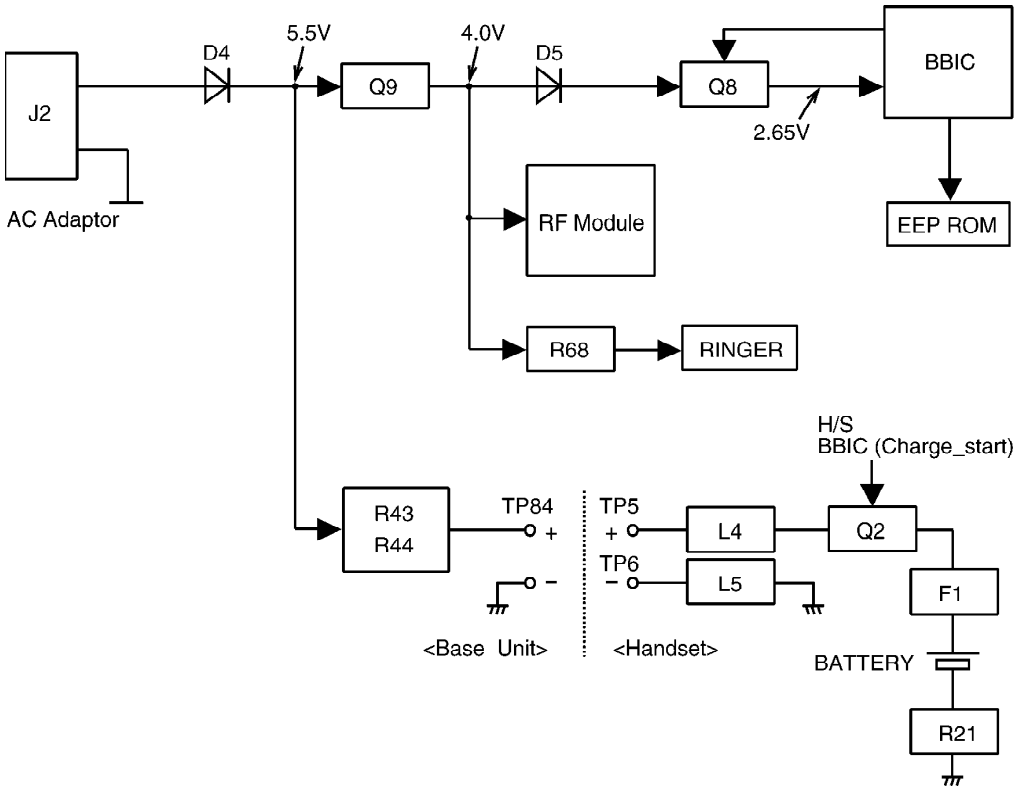
- Detector
- Compress/Expander
- First/Second Mixer
- Amplifier for transmission and reception
- EEPROM: IC1
- Temporary operating parameters (for RF, etc.)
- Additionally,
- Power Supply Circuit (+4.0V, +2.65V output)
- Crystal Circuit (10.368MHz)
- Charge Circuit
- Telephone Line Interface Circuit

20.2. Power Supply Circuit

The power is supplied to the DECT BBIC, RF Module, EEPROM, Relay Coil, LED and Charge Contact from AC Adaptor (+6V) as shown in Fig.101. The power supply is as follows;

- DECT BBIC (IC2): J2(+6V) → D4 → Q9 → D5 → Q8 → IC2
- RF Module (IC3): J2(+6V) → D4 → Q9 → IC3
- EEPROM (IC1): J2(+6V) → D4 → Q9 → D5 → Q8 → IC2 → IC1
- RINGER: J2(+6V) → D4 → Q9 → R68 → RINGER
- Charge Contact (TP84): J2(+6V) → D4 → R43, R44 → TP84

<Fig.101>



20.3. Telephone Line Interface

<Function>

- **Bell signal detection**
- **Clip signal detection**
- **ON/OFF hook circuit**
- **Earth Recall Service Option**
- **Audio circuits**

Bell signal detection:

In the standby mode, Q2 is open to cut the DC loop current and decrease the ring load. When ring voltage appears at the TP3 (A) and TP40 (B) leads (when the telephone rings), the signal is transferred as follows;

- **A → C4 → R2 → R29 → IC2 (DLP) [BELL]**
- **B → C3 → R1 → R30 → IC2 (DLP) [BELL]**

ON/OFF hook circuit:

In the standby mode, Q2 is open, and connected as to cut the DC loop current and to cut the voice signal. The unit is consequently in an off-hook condition.

When IC2 detects a ring signal or press the TALK Key onto the handset, Q3 turns on and then Q2 turns on, thus providing an off-hook condition (active DC current flow through the circuit) and the following signal flow is for the loop current.

- A → R77 → D2 → Q2 → R8 → Q3 → D2 → B [OFF HOOK]

Earth Recall Service Option
The circuit can be configured for connection to signalling earth by a service engineer as an optional feature. In order to facilitate this the components listed below are to be fitted by a Service Engineer/Technician.

Earth Relay Parts		
D1	MA111	Diode
Q1	PQVTDTC143K	Transister
RLY1	PQSL96Z	Relay
JMP4	PQ4R10XJ000	0 ohms
JMP6	PQ4R10XJ000	0 ohms

This modification connects the "E" and "A" contacts of the pulg when the relay is switched on.
The relay is controlled by the "EARTH" signal from IC2 pin58.
It can be programmed to operate in Earth Recall or Timed Break mode.
The factory preset is Timed Break mode.

20.4. Transmitter/Receiver

Base Unit and Handset mainly consist of RF Module and DECT BBIC.
Base Unit and Handset transmit/receive voice signal and data signal through the antenna on carrier frequency.

Signal Pass:
***Refer to SIGNAL ROUTE ().**

20.4.1. Transmitter Block

The voice signal input from the TEL LINE interface goes to RF Module (IC3) through DECT BBIC (IC2) as shown in BLOCK DIAGRAM (BASE UNIT) ()
The voice signal passes through the analog part of IC2 where it is amplified and converted to a digital audio stream signal. The burst switch controller processes this stream performing encryption and scrambling, adding the various other fields to produce the GAP (Generic Access Profile) standard DECT frame, assigning to a time slot and channel etc.
In IC3, the carrier frequency is changing, and frequency modulated RF signal is generated and amplified, and radiated from antenna. Handset detects the voice signal or data signal in the circuit same as the following explanation of Receiver Block.

20.4.2. Receiver Block

The signal of 1.9 GHz band (1.881792 GHz ~ 1.897344 GHz) which is input from antenna is input to IC3 as shown in BLOCK DIAGRAM (BASE UNIT) ().
In IC3, the signal of 1.9 GHz band is demoduleted, and goes to IC2 as GAP (Generic Access P rofile) standard DECT frames. It passes through the decoding section burst switch controller where it separates out the frame information and performs de-encryption and de-scrambling as required. It then goes to the DSP section where it is turned back into analog audio. This is amplified by the analog front end, and goes to the TEL LINE Interface.

20.5. Metering Pulse Detection

In the talk mode, the metering pulse is transferred as follows;

- A → R81 → IC2 (AD2) [METERING PULSE]
- B → R53 → IC2 (AD3)

21. BLOCK DIAGRAM (HANDSET)

22. CIRCUIT OPERATION (HANDSET)

22.1. Outline

Handset consists of the following ICs as shown in BLOCK DIAGRAM (HANDSET) ().

- **DECT BBIC (Base Band IC): IC1**
- **All data signals (forming/analyzing ACK or CMD signal)**
- **All interfaces (ex: Key, Detector Circuit, Charge, DC/DC Converter, EEPROM, LCD)**
- **RF Module: IC3**
- **PLL Oscillator**
- **Detector**
- **Compress/Expander**
- **Amplifier for transmission and reception**
- **EEPROM: IC2**
- **Temporary operating parameters (for RF, etc.)**

Note:
Refer to 33. EEPROM LAYOUT (HANDSET).

22.2. Power Supply Circuit/Reset Circuit

Circuit Operation:
When power on the Handset, the voltage is as follows;
BATTERY(2.2 V ~ 2.6V: TP3) → TP14(4V) → IC3(6, 27), D3 → IC1(37) → IC1(39, 63) (2.65V)
The Reset signal generates R19, C23 and 2.65V.

22.3. Charge Circuit

Circuit Operation:
When charging the handset on the Base Unit, the charge current is as follows;
DC+(5.5V ~ 6V) → D4 → R43, R44 → CHARGE+(Base) → CHARGE+(Handset) → L4 → Q2 → F1 → BATTERY+ ... Battery ... BATTERY- → R21 → GND → L5 → CHARGE-(Handset) → CHARGE-(Base) → GND → DC-(GND)
In this way, the BBIC on Handset detects the fact that the battery is charged.
The charge current is controlled by switching Q2 of Handset.
Refer to Fig.101 in Power Supply Circuit ().

22.4. Battery Low/Power Down Detector

Circuit Operation:
"Battery Low" and "Power Down" are detected by BBIC which check the voltage from battery.
The detected voltage is as follows;

- Battery Low

Battery voltage: V(Batt) < 2.3V

The BBIC detects this level and " **" starts flashing and "battery alarm" starts ringing.**

- Power Down

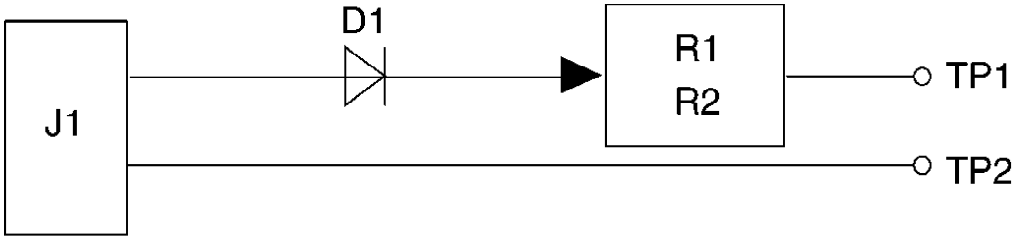
Battery voltage: V(Batt) < 2.2V

The BBIC detects this level and power down.

23. CIRCUIT OPERATION (CHARGER UNIT)

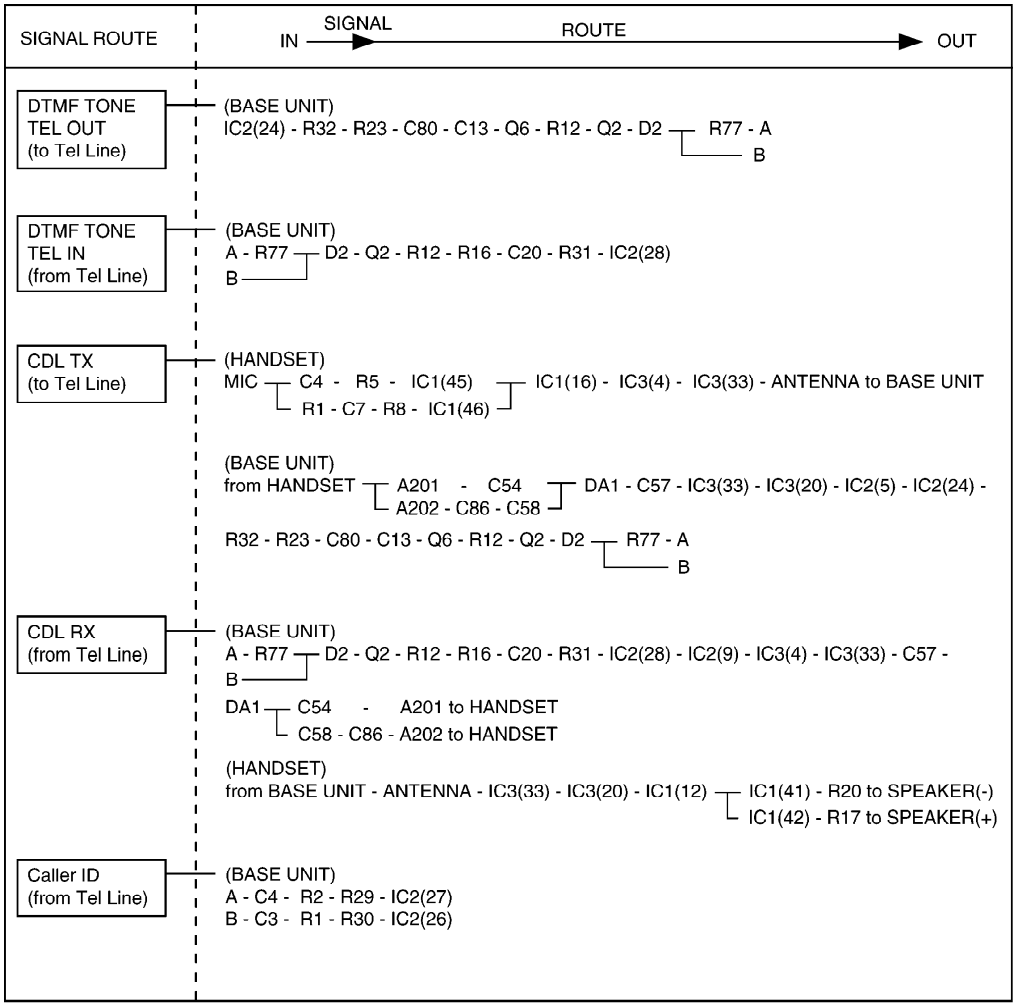
23.1. Power Supply Circuit

The power supply is as shown.



AC Adaptor

24. SIGNAL ROUTE


SIGNAL ROUTE
IN
SIGNAL
ROUTE
OUT
DTMF TONE TEL OUT (to Tel Line)
(BASE UNIT)
IC2(24) - R32 - R23 - C80 - C13 - Q6 - R12 - Q2 - D2 - R77 - A
B
DTMF TONE TEL IN (from Tel Line)
(BASE UNIT)
A - R77 - D2 - Q2 - R12 - R16 - C20 - R31 - IC2(28)
B
CDL TX (to Tel Line)
(HANDSET)
MIC - C4 - R5 - IC1(45) - IC1(16) - IC3(4) - IC3(33) - ANTENNA to BASE UNIT
R1 - C7 - R8 - IC1(46)
(BASE UNIT)
from HANDSET - A201 - C54 - DA1 - C57 - IC3(33) - IC3(20) - IC2(5) - IC2(24) -
A202 - C86 - C58
R32 - R23 - C80 - C13 - Q6 - R12 - Q2 - D2 - R77 - A
B
CDL RX (from Tel Line)
(BASE UNIT)
A - R77 - D2 - Q2 - R12 - R16 - C20 - R31 - IC2(28) - IC2(9) - IC3(4) - IC3(33) - C57 -
B
DA1 - C54 - A201 to HANDSET
C58 - C86 - A202 to HANDSET
(HANDSET)
from BASE UNIT - ANTENNA - IC3(33) - IC3(20) - IC1(12) - IC1(41) - R20 to SPEAKER(-)
IC1(42) - R17 to SPEAKER(+)
Caller ID (from Tel Line)
(BASE UNIT)
A - C4 - R2 - R29 - IC2(27)
B - C3 - R1 - R30 - IC2(26)

25. CPU DATA (BASE UNIT)

25.1. IC2 (BBIC)

Pin	Description	I/O	Hi	Hi-z	Low	Remarks
1	VDD	-	-	-	-	-
2	VSS	-	-	-	-	-
3	PA_Driver_Amp	D.O	PA_ON	-	PA_OFF	-
4	TX/RX SW	D.O	TX	-	RX	-
5	RX_Data	D.I	Data	-	Data	-
6	PLL_Strobe	D.O	Latch	-	Normal	-
7	PLL_Data	D.O	Active	-	Active	-
8	PLL_Clk	D.O	Active	-	Active	-
9	TX_Data	D.O	Active	-	Active	-
10	(NO USE)	D.O	-	-	-	-
11	RF_System_Clk	D.O	Active	-	Active	-
12	VDD	-	-	-	-	-
13	VSS	-	-	-	-	-
14	RESETQ	A.I	Normal	-	Reset	-
15	VDDPM	D.O	-	-	-	-
16	VSSO	D.I	-	-	-	-
17	LOAD	A.I	-	-	-	-
18	XTAL	A.I	-	-	-	10.368 MHz
19	VDDLR	A.I	-	-	-	-
20	LRB	A.I	-	-	-	-
21	VDDA	-	-	-	-	-
22	VSSA	-	-	-	-	-
23	Audio_Out_N	A.O	-	-	-	-
24	Audio_Out_P	A.O	-	-	-	-
25	Bandgap_Ref	A.I	-	-	-	-
26	Differential_Line_P	A.I	-	-	-	for Bell Clip
27	Differential_Line_N	A.I	-	-	-	for Bell Clip
28	Audio_In_N	A.I	-	-	-	-
29	ADC_Ref	A.I	-	-	-	-
30	RSSI	A.I	-	-	-	-
31	AD2(MPCINP)	A.I	-	-	-	for Polarity
32	AD3	A.I	-	-	-	for Polarity
33	(NO USE)	D.I	(I_PU)	-	-	-
34	(NO USE)	D.I	(I_PU)	-	-	-
35	(NO USE)	D.I	(I_PU)	-	-	-
36	(NO USE)	D.I	(I_PU)	-	-	-
37	VDD	-	-	-	-	-
38	VSS	-	-	-	-	-
39	Supply_EEP	D.O	(Fixed)	-	-	-
40	Serial_Data(I2C)	D.I/O	Data	-	Data	-
41	Serial_Clk(I2C)	D.O	Active	-	Active	-
42	MODE	D.I	-	-	(Fixed)	-
43	(NO USE)	D.O	-	-	(Fixed)	-
44	BELL/PAGING	D.O	RINGER_ON	-	RINGER_OFF	-
45	VBACK	A.I	-	-	-	-

Pin	Description	I/O	Hi	Hi-z	Low	Remarks
46	(NO USE)	-	-	-	(I_PD)	-
47	(NO USE)	D.I	-	-	(Fixed)	-
48	VDD	-	-	-	-	-
49	(NO USE)	D.I	-	-	(Fixed)	-
50	(NO USE)	D.I	(Fixed)	-	-	-
51	(NO USE)	D.I	-	-	(Fixed)	-
52	(NO USE)	D.I	-	-	(Fixed)	-
53	VSS	-	-	-	-	-
54	VDD	-	-	-	-	-
55	KEY_IN	D.I	No Key	-	Key	-
56	(NO USE)	D.I/O	-	-	(I_PD)	-
57	PULSE_CTRL	D.I/O	Q7_ON	-	Q7_OFF	-
58	(NO USE)	D.I/O	-	-	(I_PD)	-
59	(NO USE)	D.I/O	-	-	(I_PD)	-
60	(NO USE)	D.I/O	-	-	(I_PD)	-
61	HOOK_CTRL	D.O	Make	-	Break	-
62	(NO USE)	D.I/O	-	-	(I_PD)	-
63	ANT1	D.O	ANT1_ON	-	ANT1_OFF	-
64	ANT2	D.O	ANT2_ON	-	ANT2_OFF	-

Note:
I_PU; Internal Pull-Up, I_PD; Internal Pull-Down

26. CPU DATA (HANDSET)

26.1. IC1 (BBIC)

Pin	Description	I/O	Hi	Hi-z	Remarks
1	LCD_SEGMENT	D.O	Active	-	-
2	LCD_COMMON	D.O	Active	-	-
3	VDD	-	-	-	-
4	VSS	-	-	-	-
5	LCD_COMMON	D.O	Active	-	-
6	LCD_COMMON	D.O	Active	-	-
7	LCD_COMMON	D.O	Active	-	-
8	LCD_COMMON	D.O	Active	-	-
9	LCD_COMMON	D.O	Active	-	-
10	PA_SW	D.O	PA ON	-	-
11	T/R SW	D.O	Transmit	-	-
12	RX_DATA	D.I	Active	-	-
13	SYEN	D.O	Active	-	-
14	SYDA	D.O	Active	-	-
15	SYCL	D.O	Active	-	-
16	TX_DATA	A.O	Active	-	-
17	KEY_IN	D.I	No Key	-	-
18	KEY_IN	D.I	No Key	-	-
19	KEY_IN	D.I	No Key	-	-
20	KEY_IN	D.I	No Key	-	-
21	KEY_IN	D.I	No Key	-	-
22	(NO USE)	D.O	-	-	-
23	Reference clock	D.O	Active	-	-
24	VDD	-	-	-	-
25	VSS	-	-	-	-
26	POWER_SW	A.I	No Key	-	-
27	CHARGE_DET	A.I	Charge	-	-
28	DCDCDRV	D.O	Active	-	-
29	DCDCCMR	A.I	-	-	-
30	RESET	A.I	Normal	-	-
31	VSSO	-	-	-	-
32	LOAD	A.I	-	-	-
33	XTAL	A.I	-	-	-
34	VDDPM	A.O	-	-	-
35	VDDLO	A.O	-	-	-
36	VDDBAT	A.I	-	-	-
37	VDDLR	-	-	-	-
38	CHARGE_START	A.O	-	-	for charge
39	VDDA	-	-	-	-
40	VSSA	-	-	-	-
41	LSRN	A.O	-	-	-
42	LSRP	A.O	-	-	-
43	BANDGAP_REF	A.O	-	-	-
44	MICS	A.O	-	-	-
45	MICP	A.I	-	-	-

45	MICP	A.I	-	-	-

Pin	Description	I/O	Hi	Hi-z	Remarks
46	MICN	A.I	-	-	-
47	Reference Voltage	A.O	-	-	-
48	RSSI	A.I	-	-	-
49	P0.4	D.I	-	-	-
50	AD4N	A.I	-	-	-
51	AD4P	A.I	-	-	-
52	(NO USE)	D.I	-	-	-
53	KEY_STRB	D.O	Active	-	-
54	KEY_STRB	D.O	Active	-	-
55	KEY_STRB	D.O	Active	-	-
56	LCD_SEGMENT	D.O	Active	-	-
57	LCD_SEGMENT	D.O	Active	-	-
58	LCD_SEGMENT	D.O	Active	-	-
59	KEY_STRB	D.O	Active	-	-
60	KEY_STRB	D.O	Active	-	-
61	LCD_SEGMENT	D.O	Active	-	-
62	LCD_SEGMENT	D.O	Active	-	-
63	VDD	-	-	-	-
64	VSS	-	-	-	-
65	VDD for EEPROM	D.O	-	-	-
66	I2DAT	D.I/O	Active	-	-
67	I2CLK	D.I/O	Active	-	-
68	MODE	D.I	-	-	-
69	R2	D.I	-	-	-
70	(NO USE)	D.O	-	-	-
71	VBACK/P0.7	D.I	-	-	-
72	LCD_SEGMENT	D.O	Active	-	-
73	LCD_SEGMENT	D.O	Active	-	-
74	LCD_SEGMENT	D.O	Active	-	-
75	LCD_SEGMENT	D.O	Active	-	-
76	LCD_SEGMENT	D.O	Active	-	-
77	VDDLI	-	-	-	-
78	LCD_SEGMENT	D.O	Active	-	-
79	LCD_SEGMENT	D.O	Active	-	-
80	LCD_SEGMENT	D.O	Active	-	-
81	LCD_SEGMENT	D.O	Active	-	-
82	LCD_SEGMENT	D.O	Active	-	-
83	LCD_SEGMENT	D.O	Active	-	-
84	LCD_SEGMENT	D.O	Active	-	-
85	VSS	-	-	-	-
86	VDD	-	-	-	-
87	LCD_SEGMENT	D.O	Active	-	-
88	(NO USE)	D.O		-	-

Pin	Description	I/O	Hi	Hi-z	Remarks
89	Power Select	D.O	Low Power	-	-
90	LCD_SEGMENT	D.O	Active	-	-
91	LCD_SEGMENT	D.O	Active	-	-
92	LCD_SEGMENT	D.O	Active	-	-
93	LCD_SEGMENT	D.O	Active	-	-
94	LCD_SEGMENT	D.O	Active	-	-
95	LCD_SEGMENT	D.O	Active	-	-
96	LCD_SEGMENT	D.O	Active	-	-
97	LCD_SEGMENT	D.O	Active	-	-
98	LCD_SEGMENT	D.O	Active	-	-
99	LCD_SEGMENT	D.O	Active	-	-
100	LCD_SEGMENT	D.O	Active	-	-

27. EEPROM LAYOUT (BASE UNIT)

27.1. Scope

The purpose of this section is to describe the layout of the EEPROM (IC1) for the KX-TCD430 Base Unit.
The EEPROM contains hardware, software, and user specific parameters. Some parameters are set during production of the base e.g. crystal frequency adjustment at address 0000 and 0001, some are set by the user configuration e.g. ringer volume at address 0220, and some are set during normal use of the phone e.g. meter pulse billing at address 0140..015F.

27.2. Introduction

The base unit uses a 32K bit serial EEPROM (IC1) for storing volatile parameters. All parameters are set up before the base leaves the factory. Some of these are vital for the operation of the hardware so a set of default parameters is programmed before the actual hardware fine-tuning can be initiated. This document lists all default settings with a short description.
In the tables below values in a range that are similar are not repeated; i.e. Address 00 to 01 contains the value 00 simply means that the value 00 is repeated in all addresses in the range.
All values in this document are in hexadecimal notation.

Type	Name	Description
D	default	The EEPROM location is preset to the Default value by the eeprom default
A	adjust	The EEPROM location is set during the production test and should not be overwritten. The value is set by the eeprom default loader only if the locati contains all 1's (byte: 0xFF, word FFFFh), i, e. it has never been set.
-		EEPROM location which is not set at all.
d	default	Same as D but best-guess value and/or not verified.

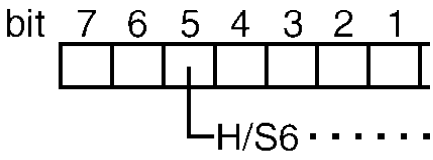
Country Setting	x	Default - no specific country setting, so revert to default value

27.3. EEPROM Layout

27.3.1. General Setup

Address	Default	Name	Country Setting	Type	Description
0000-01	00 E0	EepromOscillator	x	A	Frequency adjustment
0002	20	ModulationDeviation	x	A	Modulation adjustment
0020	-	RFPI (ID for Base Unit)	x	A	RFPI
0025	00 00	AC (Base PIN code)	x	D	AC code
0028	00	TBR22Test	x	-	TBR22 test
0030-0034	FF .. FF	IPUI_1 (ID for H/S 1)	x	D	Ipui for handset 1. If set to FF . (5bytes) the handset is not enrolled.
0035-0039	FF .. FF	IPUI_2 (ID for H/S 2)	x	D	Ipui for handset 2. If set to FF . (5bytes) the handset is not enrolled.
003A-003E	FF .. FF	IPUI_3 (ID for H/S 3)	x	D	Ipui for handset 3. If set to FF . (5bytes) the handset is not enrolled.
003F-0043	FF .. FF	IPUI_4 (ID for H/S 4)	x	D	Ipui for handset 4. If set to FF . (5bytes) the handset is not enrolled.
0044-0048	FF .. FF	IPUI_5 (ID for H/S 5)	x	D	Ipui for handset 5. If set to FF . (5bytes) the handset is not enrolled.
0049-004D	FF .. FF	IPUI_6 (ID for H/S 6)	x	D	Ipui for handset 6. If set to FF . (5bytes) the handset is not enrolled.
004E-008F	-	Reserved	x	-	Protocol data
0090-009F	-	UAK_1	x	-	UAK for hanset 1 (for factory u
00A0-00AF	-	UAK_2	x	-	UAK for hanset 2 (for factory u
00B0-00BF	-	UAK_3	x	-	UAK for hanset 3 (for factory u
00C0-00CF	-	UAK_4	x	-	UAK for hanset 4 (for factory u
00D0-00DF	-	UAK_5	x	-	UAK for hanset 5 (for factory u
00E0-00EF	-	UAK_6	x	-	UAK for hanset 6 (for factory u

27.3.2. Switch Control

Address	Default	Name	Country Setting	Type	Description
09F1	00	HsRegInfo.RegFlags	x	D	Handset registration info - registra OFF  1=reg, 0=no reg
09F2	00	HsRegInfo.EmcFlags	x	D	Handset registration info - EMC fla Bit 6..7: not used 0..5: handset 1..6 info, 1=known , (unknown
09F3	21	RingMode	33	D	Ring mode. Modes used in KAMM 20h and 21h. Bit 7..5: Mode (001=group) 4 : Not used 3..0: Id (001= id of first group)

27.3.3. Flash Time setting

Address	Default	Name	Country Setting	Type	Description
0F0B	08	CalibBreakTime[0]	08	D	Calibrated loop-break time for s break Unit: 10 ms, defaultst to 80 ms
0F0C	14	CalibBreakTime[1]	20	D	Calibrated loop-break time for s break Unit: 10 ms, defaultst to 200 ms
0F0D	46	CalibBreakTime[2]	70	D	Calibrated loop-break time for s break Unit: 10 ms, defaultst to 700 ms

27.3.4. Clip (Caller ID) configuration

Address	Default	Name	Country Setting	Type	Description
0F1C	70	Detect	112	D	CLIP detect configuration Bit 0-2: Mode: 0: Learn mode, 1: only, 2: FSK only, 3: Generic Russian CLIP only 3: Unused4 4: Onhook: 1=enable 0=disab 5: Offhookk: 1=enable 0=disa 6: Msgwaiting: 1=enable 0=di 7: Unused7
0F37..38	3D 00	Parse.Configuration	61 00	D	Clip parse set configuration Bit 0: Etsi: 1=enable 0=disable 1: ForwardNumber: 1=enable 2: Danish: 1=enable 0=disabl 3: Dutch: 1=enable 0=disable 4: Canadian: 1=enable 0=disa 5: Swedish: 1=enable 0=disal 6: UserDefined: 1=enable 0=d 7: KPN vmwi: 1=enable 0=dis 8: ProtocolPriority: If 2 mutually exclusive param occurs, the 1st in the protocc message has priority. 1=enable 0=disable 9: UseCallType: Verify the Call Type paramete available, when receiving Cal CLIP at busy subscriber. 1=enable 0=disable 10: AddTop0IfNo0 Automatic addition of 0 if top ID is not 0. 1=enable 0=disable 11: DtmfDigitsOnly Parse DTMF clip without star stop code. 1=enable 0=disable 12..15: Reserved12..Reservec

27.3.5. BsUiTask settings

Address	Default	Name	Country Setting	Type	Description
0F4B	03	Config1	03	D	BsUiTask configuration (MSB) Bits 1=enable 0=disable 0: AmPmClockSettingEnabled, 1: ClipDetectionSettingEnabled 2: AkzMenuEnabled, disabled 3: HakzMenuEnabled, disabled 4: RussianClipSttingEnabled, d 5: SmscSendNumberSettingEn disabled 6: SMSPabxSupportSettingEna disabled 7: Unused
0F4C	D7	Config2	215	D	BsUiTask configuration (LSB) Bits 1=enable 0=disable 0: FlashTime1Enabled, enabled 1: FlashTime2Enabled, enabled 2: FlashTime3Enabled, enabled 3: KeyClicksEnable, disabled 4: ARSCarrierMenuEnabled, en 5: ARSIntDeletionMenuEnablec 6: ARSMultipleCarrierMenuEna enabled 7: ARSMultipleAreaCodeMenuE enabled
0F4E	FF	Config2	255	D	BsUiTask configuration 2 Bits 1=enable 0=disable 0: RingerModeMenuEnabled, e 1: CallRestrictionMenuEnabled 2: CancelHandsetMenuEnabled 3: BaseToneMenusEnabled, en 4-7: Unused

28. EEPROM LAYOUT (HANDSET)

28.1. Scope

The purpose of this section is to describe “layout of the EEPROM (IC2) KX-A143 Handset”.
The EEPROM contains hardware, software, and user specific parameters. Some parameters are set during production of the handset e.g. crystal oscillator adjustment at 0000..01, some are set by the user when configuring the handset e.g. ringer volume at 0F38, and some during normal use of the phone e.g. redial memory at 0311..0392.

28.2. Introduction

The handset uses a 32k bit serial EEPROM (IC2) for storing volatile parameters. All parameters are set up before the handset the factory. Some of these are vital for the operation of the hardware so a set of default parameters is programmed before the actual hardware fine-tuning can be initiated. This document lists all default settings with a short description.
This document lists all default parameters with a short description.
In the tables below values in a range that are similar are not repeated; i.e. Address 00 to 01 contains the value 00 simply means that the value 00 is repeated in all addresses in the range.

Type	Name	Description
D	default	The EEPROM location is preset to the Default value by the eeprom defau loader.
A	adjust	The EEPROM location is set during the production test and should not b overwritten. The value is set by the eeprom default loader only if the loc contains 0xFF, i, e. it has never been set.
-		EEPROM location which is not set at all.

28.3. EEPROM contents

28.3.1. General Setup

Address	Default	Name	Type	Description
0000-0001	00, 60	EepromOscillator	A	Frequency adjustment
0002	0A	ModulationDeviation	A	Mudulation adjustment
0030-0034	00	IPEI (ID for Handset)	A	IPEI
0036-003A	FF	PARK_1 (ID for Base 1)	-	PARK for registration 1
003B-003F	FF	PARK_2 (ID for Base 2)	-	PARK for registration 2
0040-0044	FF	PARK_3 (ID for Base 3)	-	PARK for registration 3
0045-0049	FF	PARK_4 (ID for Base 4)	-	PARK for registration 4
004A-004D	FF	PLI_1-PLI_4	D	Pli for registration 1-4. If set to FF registration is deleted.

28.3.2. Signal detection (for factory use only)

Address	Default	Name	Country Setting	Type	Description
0100-0104	-	RFPI_1 (Base 1)	-	-	RFPI for registration 1
0105	-	SerClass_1	-	-	Service class for registration 1
0106	-	LAL_1	-	-	Location area level for registratio
0107	-	IPUI_LEN_1	-	-	IPUI length for registration 1
0108-0114	-	IPUI_1	-	-	IPUI for registration 1
0115	-	ZAP_1	-	-	ZAP for registration 1
0116	-	STATUS_1	-	-	Status for registration 1
0117-126	-	UAK_1	-	-	UAK for registration 1
0130-134	-	RFPI_2 (Base 2)	-	-	RFPI for registration 2
0135	-	SerClass_2	-	-	Service class for registration 2
0136	-	LAL_2	-	-	Location area level for registratio
0137	-	IPUI_LEN_2	-	-	IPUI length for registration 2
0138-0144	-	IPUI_2	-	-	IPUI for registration 2
0145	-	ZAP_2	-	-	ZAP for registration 2
0146	-	STATUS_2	-	-	Status for registration 2
0147-0156	-	UAK_2	-	-	UAK for registration 2
0160-0164	-	RFPI_3 (Base 3)	-	-	RFPI for registration 3
0165	-	SerClass_3	-	-	Service class for registration 3
0166	-	LAL_3	-	-	Location area level for registratio
0167	-	IPUI_LEN_3	-	-	IPUI length for registration 3
0168-0174	-	IPUI_3	-	-	IPUI for registration 3
0175	-	ZAP_3	-	-	ZAP for registration 3
0176		STATUS_3	-	-	status for registration 3
0177-0186	-	UAK_3	-	-	UAK for registration 3
0190-0194	-	RFPI_4 (Base 4)	-	-	RFPI for registration 4
0195	-	SerClass_4	-	-	Service class for registration 4
0196	-	LAL_4	-	-	Location area level for registratio
0197	-	IPUI_LEN_4	-	-	IPUI length for registration 4
0198-01A4	-	IPUI_4	-	-	IPUI for registration 4
01A5	-	ZAP_4	-	-	ZAP for registration 4
01A6	-	STATUS_4	-	-	UAK for registration 4
01A7-01B6	-	UAK_4	-	-	UAK for registration 4
0450-0451	-	HSPinCode	x	-	4 BCD Digits

Address	Default	Name	Country Setting	Type	Description
0462	00	Language	10	D	00 = English 01 = Spanish 02 = French 03 = Italian 04 = Dutch 05 = Turkish 06 = Hungarian 07 = Portuguese 08 = Polish 09 = Command 0A = German
0467	00	FactoryLanguageSetting	10	D	Factory setting for language: 00 = English 01 = Spanish 02 = French 03 = Italian 04 = Dutch 05 = Turkish 06 = Hungarian 07 = Portuguese 08 = Polish 09 = Command 0A = German
0469	07	MaxDigitsToMatch	06	D	Valid values: 01 - FF Digits above this value will not be evaluated, when matching.
046A	05	MinDigitsToMatch	05	D	Valid values: 01 - FF (-Must be lov MaxDigitsToMatch). -If all digits of one of the numbers completely, -with at least this number of digits a match. (-Or if they match completely with digits, we also have match.)

28.3.3. Battery Parameters

Address	Default	Name	Type	Description
0F04	9A	LowVoltage	A	Voltage on which to start battery l indication. The voltage has to be measured u value for 8 seconds before the handset star signaling low battery. LowVoltage[eeprom]=[ADC-steps] LowVoltage[mV](14.35[mV/step])

28.3.4. Default Audio-Parameters

Address	Default	Name	Country Setting	Type	Description
0F36	46	GR-offset for volumestep 1	70	D	Bit7: AOG Bit6: AOG2 Bit5, bit0: Gain-receive (values ra from 0x00 to 0x30, each step repr 1 dB)
0F37	5B	GR-offset for volumestep 2	x	A	Bit7: AOG Bit6: AOG2 Bit5, bit0: Gain-receive (values ra from 0x00 to 0x30, each step repr 1 dB)
0F38	00	GR-offset for volumestep 3	x	D	Bit7: AOG Bit6: AOG2 Bit5, bit0: Gain-receive offset to volumestep 2 (values ranging fro 0x30, each step representing 1 dE
0F3F	02	EEVoiceVolume	02	D	Volume of the earpiece

28.3.5. VolumeSetting Second Block

Address	Default	Name	Country Setting	Type	Description
0F53	FF	Menu Config	255	D	bit 0 - Registration menu on/off 1/ bit 1 - Select base menu on/off 1/0 bit 2 - Internal ringer menu on/off bit 3 - Page ringer menu on/off 1/0 bit 4 - Standby mode menu on/off bit 5 - Battery select menu on/off 1 bit 6 - Call wating menu on/off 1/0 bit 7 - Clip list on/off 1/0
0F54	01	RecVolStoreEnabled	01	D	00: Reciever volume will be reset value when hooking on. 01: Reciever volume will be stored eeprom when set in conversation.

29. HOW TO REPLACE FLAT PACKAGE IC

29.1. Preparation

- PbF (: Pb free) Solder
- Soldering Iron

  Tip Temperature of 700°F ± 20°F (370°C ± 10°C)

  Note: We recommend a 30 to 40 Watt soldering iron. An expert may be able to use a 60 to 80 Watt iron where someone with less experience could overheat and damage the PCB foil.
- Flux

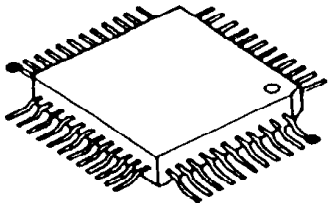
  Recommended Flux: Specific Gravity →0.82.

  Type →RMA (lower residue, non-cleaning type)

Note: See ABOUT LEAD FREE SOLDER (PbF: Pb free) ().

29.2. Procedure

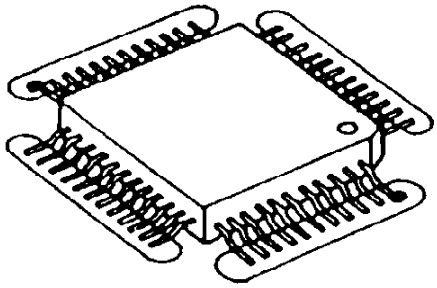
1. Tack the flat pack IC to the PCB by temporarily soldering two diagonally opposite pins in the correct positions on the PCB.

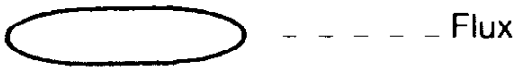


●－－－－－－Temporary soldering point.

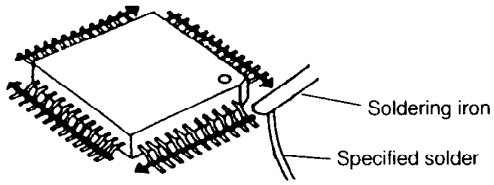
Be certain each pin is located over the correct pad on the PCB.

2. Apply flux to all of the pins on the IC.





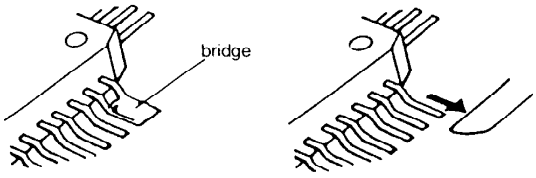
3. Being careful to not unsolder the tack points, slide the soldering iron along the tips of the pins while feeding enough solder to the tip so that it flows under the pins as they are heated.



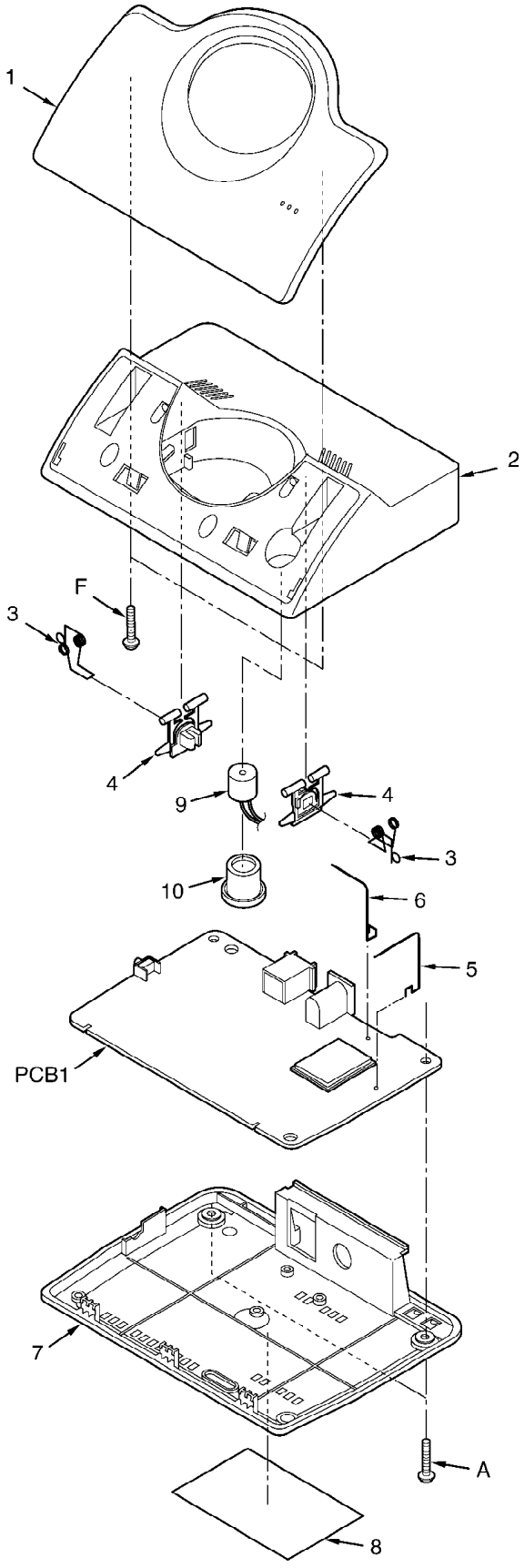
29.3. Modification Procedure of Bridge

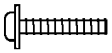
1. Add a small amount of solder to the bridged pins.

2. With a hot iron, use a sweeping motion along the flat part of the pin to draw the solder from between the adjacent pads.

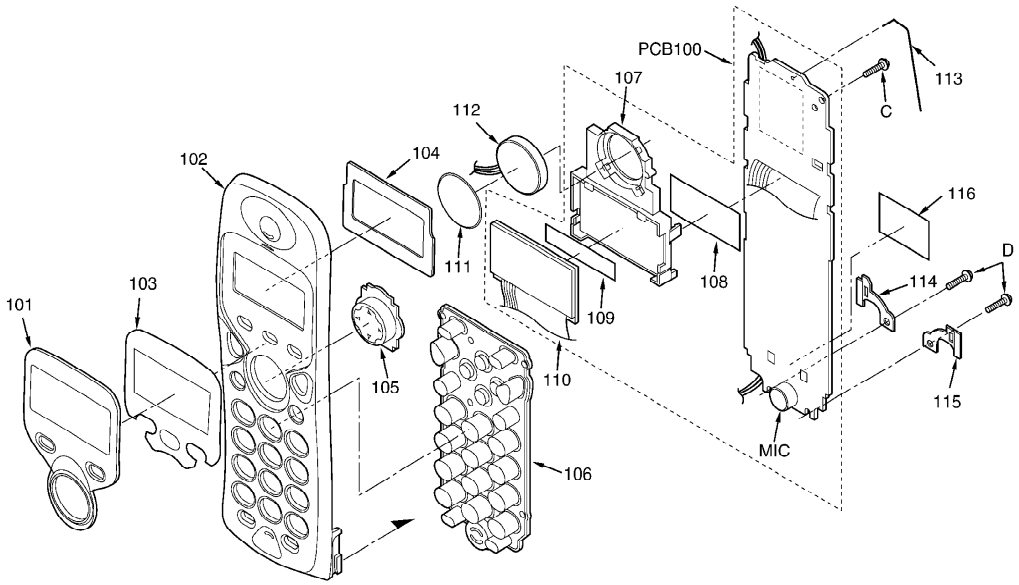


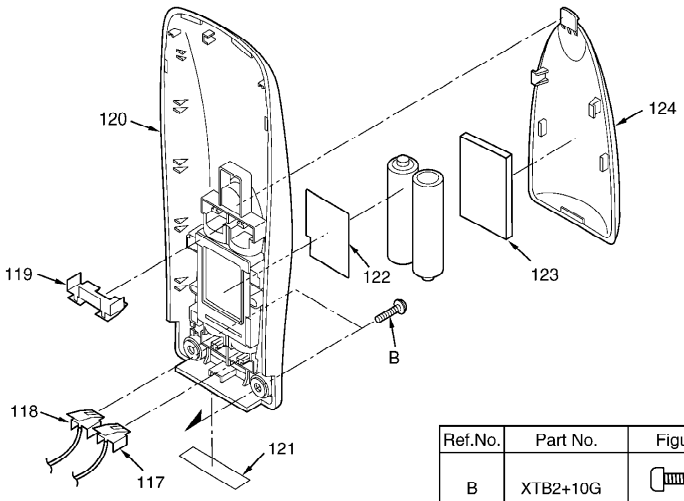
30. CABINET AND ELECTRICAL PARTS LOCATION (BASE UNIT)



Ref.No.	Part No.	Figure
A	XTW26+12P	 ϕ2.6 × 12mm
F	XTW26+12P	ϕ2.6 × 12mm

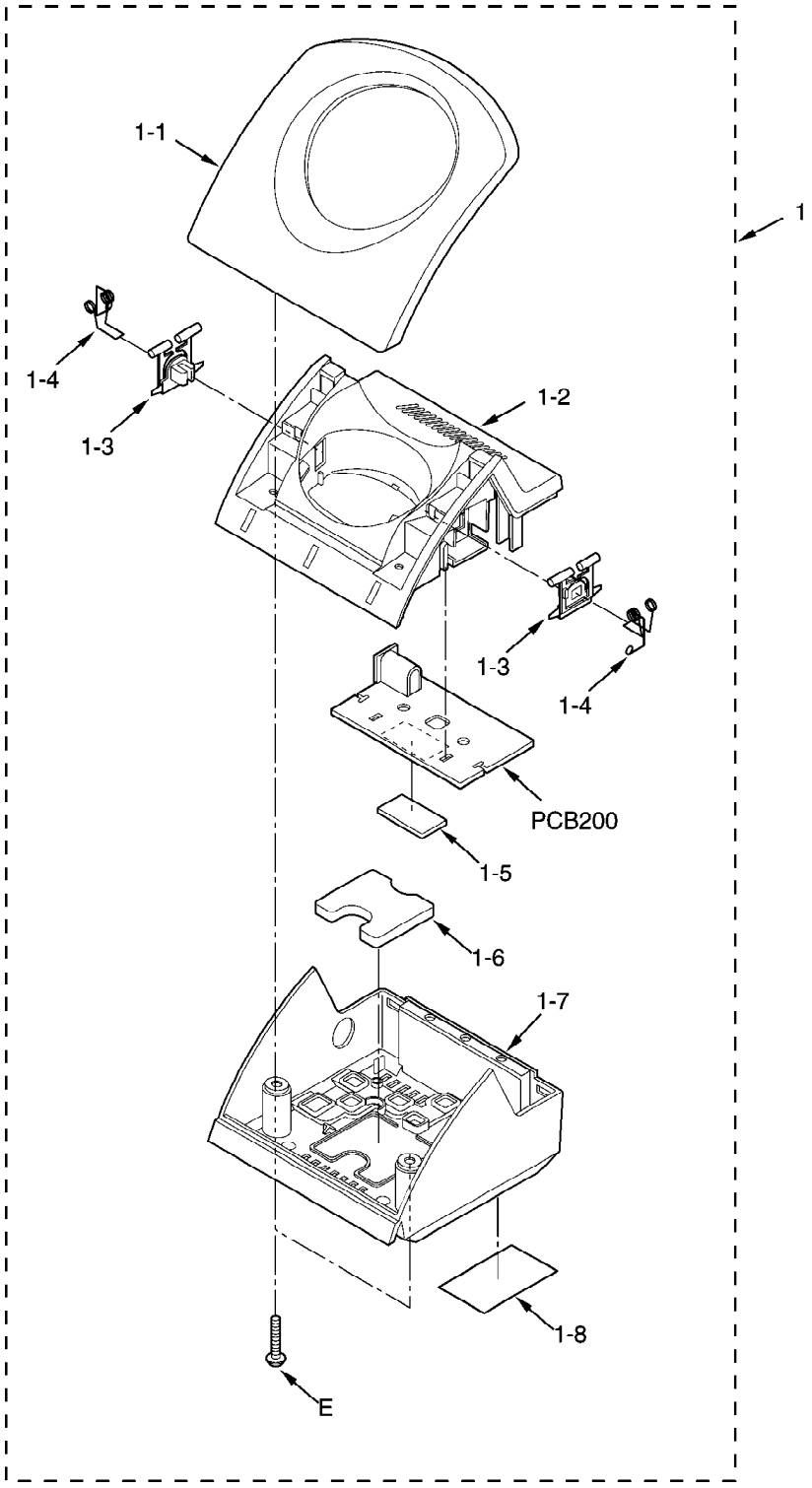
31. CABINET AND ELECTRICAL PARTS LOCATION (HANDSET)





Ref.No.	Part No.	Figure
B	XTB2+10G	ϕ2×10mm
C	XTB2+8G	ϕ2×8mm
D	XTB2+8G	ϕ2×8mm

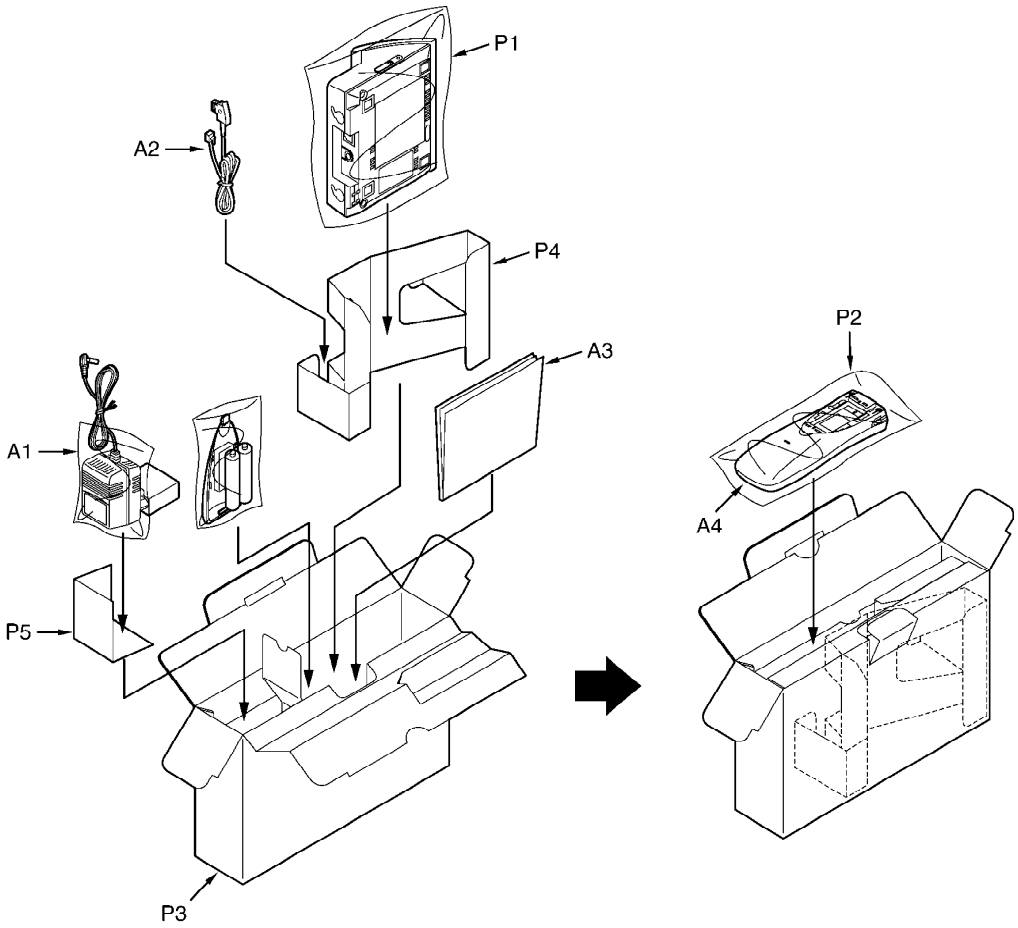
32. CABINET AND ELECTRICAL PARTS LOCATION (CHARGER UNIT)



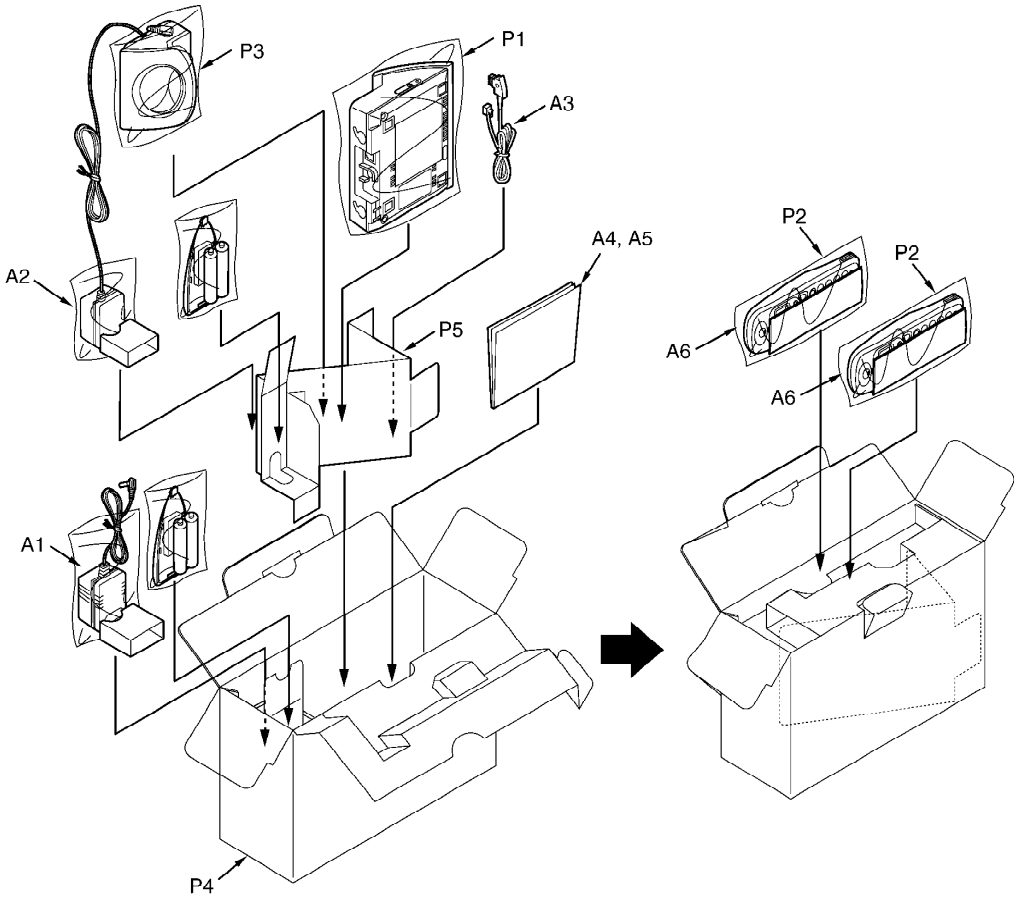
Ref.No.	Part No.	Figure
E	XTW26+14P	ϕ2.6 × 14mm

33. ACCESSORIES AND PACKING MATERIALS

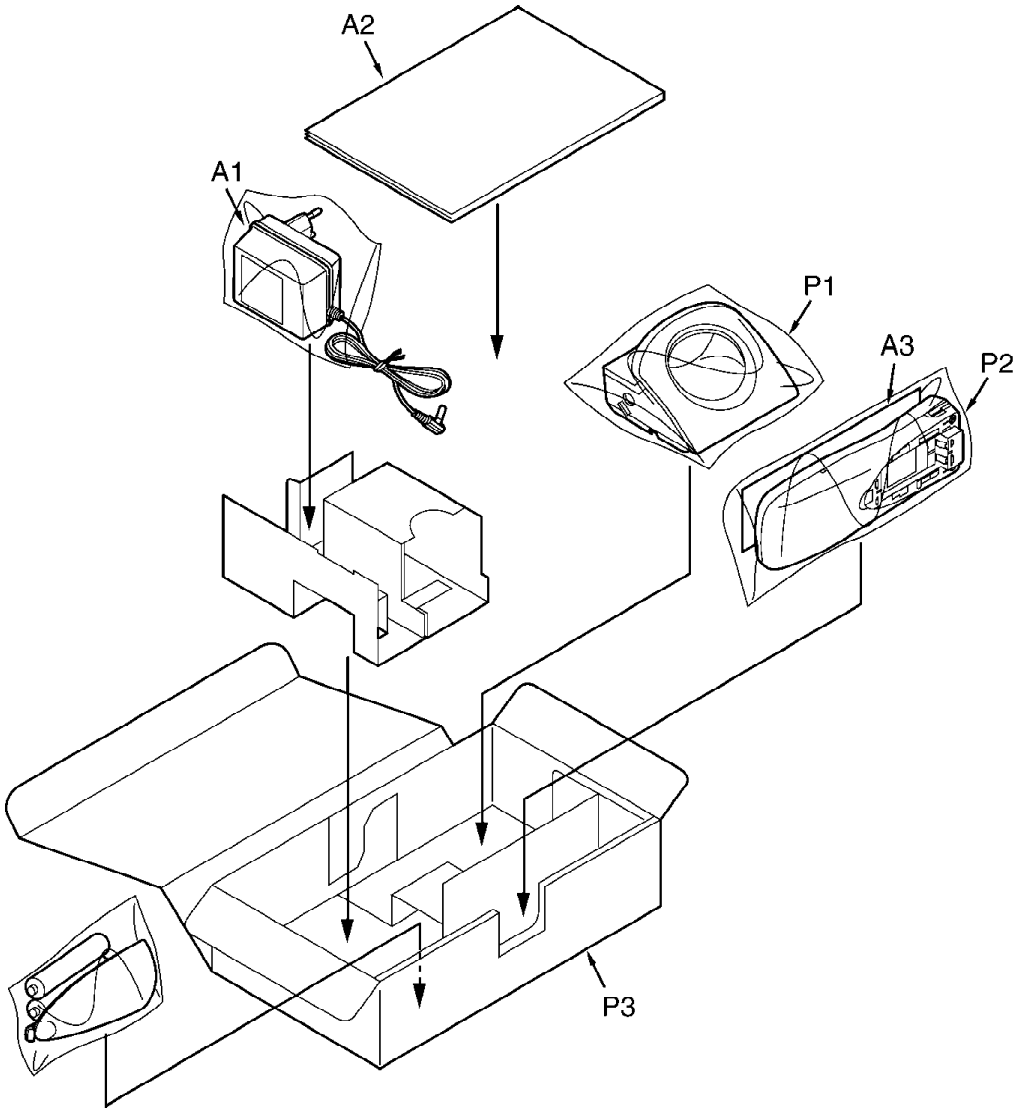
33.1. KX-TCD430GC/GF



33.2. KX-TCD432GC/GF

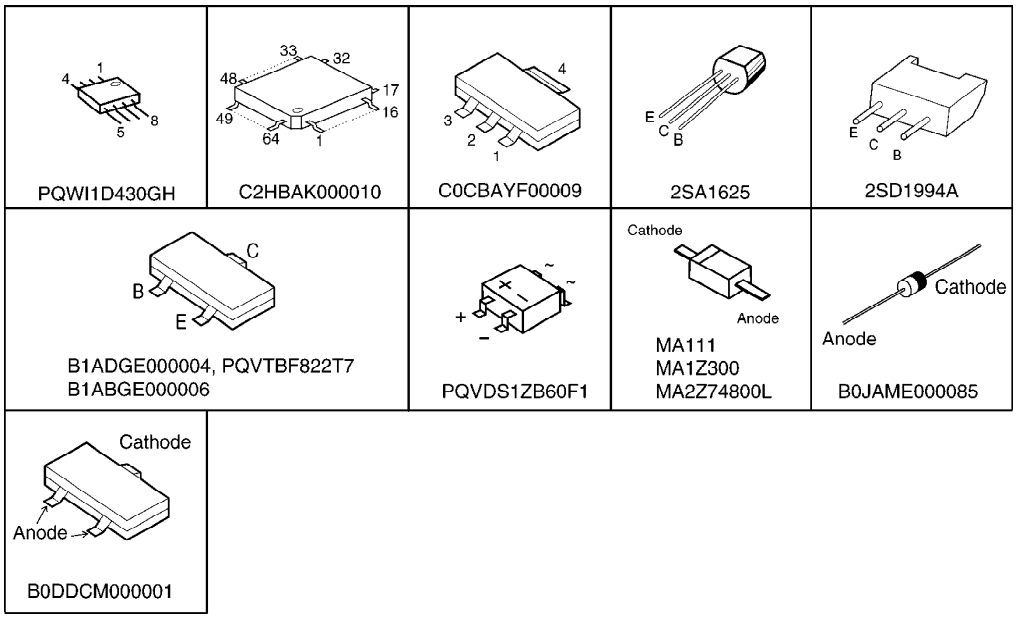


33.3. KX-A143EXC/EXF

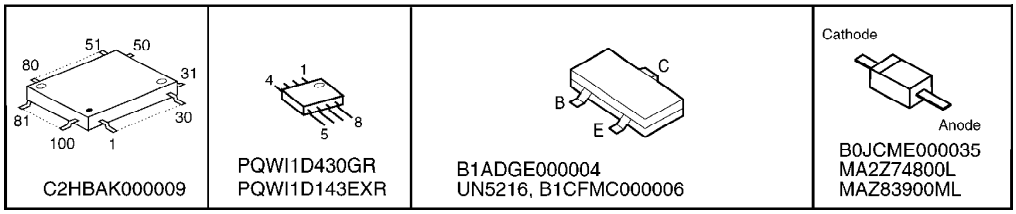


34. TERMINAL GUIDE OF THE ICs, TRANSISTORS AND DIODES

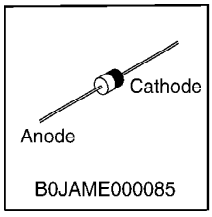
34.1. Base Unit



34.2. Handset



34.3. Charger Unit



35. REPLACEMENT PARTS LIST

1. RTL (Retention Time Limited)

Note:
The marking (RTL) indicates that the Retention Time is limited for this item.
After the discontinuation of this assembly in production, the item will continue to be available for a specific period of time. The retention period of availability is dependant on the type of assembly, and in accordance with the laws governing part and product retention. After the end of this period, the assembly will no longer be available.

2. Important safety notice

Components identified by the ⚠ mark indicates special characteristics important for safety. When replacing any of these

components, only use specified manufacture's parts.

3. The S mark means the part is one of some identical parts. For that reason, it may be different from the installed part.
4. ISO code (Example: ABS-94HB) of the remarks column shows quality of the material and a flame resisting grade about plastics.
5. RESISTORS & CAPACITORS
   Unless otherwise specified;
   All resistors are in ohms (Ω) K=1000 Ω , M=1000k Ω
   All capacitors are in MICRO FARADS (μ F)P= μ μ F
   *Type & Wattage of Resistor

Type

ERC:Solid ERDS:Carbon ERJ:Chip	ERX:Metal Film ERG:Metal Oxide ER0:Metal Film	PQ4R:Chip ERS:Fusible Resistor ERF:Cement Resistor

Wattage

10,16:1/8W	14,25:1/4W	12:1/2W	1:1W	2:2W	3:3W

*Type & Voltage Of Capacitor

Type

ECFD:Semi-Conductor ECQS:Styrol ECUV,PQCUV,ECUE:Chip ECQMS:Mica	ECCD,ECKD,ECBT,F1K,ECUV:Ceramic ECQE,ECQV,ECQG:Polyester ECEA,ECST,EEE:Electlytic ECQP:Polypropylene

Voltage

ECQ Type	ECQG ECQV Type	ECSZ Type	Others	
1H:50V 2A:100V 2E:250V 2H:500V	05:50V 1:100V 2:200V	0F:3.15V 1A:10V 1V:35V 0J:6.3V	0J :6.3V 1A :10V 1C :16V 1E,25:25V	1V :35V 50,1H:50V 1J :16V 2A :100V

35.1. Base Unit

35.1.1. Cabinet and Electrical Parts

Ref. No.	Part No.	Part Name & Description	Remarks
1	PQGG10154U2	GRILLE (for KX-TCD430GC) (for KX-TCD432GC)	ABS-HB
1	PQGG10154U1	GRILLE (for KX-TCD430GF) (for KX-TCD432GF)	ABS-HB
2	PQKM10586W2	CABINET BODY	ABS-HB
3	PQJT10203Z	TERMINAL	
4	PQKE10356Z2	GUIDE, CHARGE TERMINAL CASE	POM-HB
5	PQSA10131Z	ANTENNA, MAIN	
6	PQSA10132Z	ANTENNA, SUB	
7	PQKF10581Z2	CABINET COVER	ABS-HB
8	PQGT16799Z	NAME PLATE (for KX-TCD430GC) (for KX-TCD432GC)	
8	PQGT16793Z	NAME PLATE (for KX-TCD430GF) (for KX-TCD432GF)	
9	L0DACA000023	BUZZER	
10	PQHG10690Z	RUBBER PARTS, RINGERRUBBER	

35.1.2. Main P.C.Board Parts

Note:
(*1) When replacing IC1, data need to be written to it with PQZZTCD430G.

Ref. No.	Part No.	Part Name & Description	Remarks
PCB1	PQWP1D430GH	MAIN P.C.BOARD ASS'Y (RTL)	
		(ICs)	
IC1	PQWI1D430GH	IC (*1)	S
IC2	C2HBAK000010	IC	
Q9	C0CBAYF00009	IC	S
		(TRANSISTORS)	
Q2	2SA1625	TRANSISTOR(SI)	S
Q3	PQVTBF822T7	TRANSISTOR(SI)	
Q6	2SD1994A	TRANSISTOR(SI)	
Q8	B1ADGE000004	TRANSISTOR(SI)	
Q10	B1ABGE000006	TRANSISTOR(SI)	
		(DIODES)	
D2	PQVDS1ZB60F1	DIODE(SI)	S
D3	MA1Z300	DIODE(SI)	
D4	B0JAME000085	DIODE(SI)	
D5	MA2Z74800L	DIODE(SI)	
D9	MA111	DIODE(SI)	S
DA1	B0DDCM000001	DIODE(SI)	
L1	PQLQR4D4R7K	COIL	
L3	PQLQR2M33NKT	COIL	
L4	G1C2N7Z00008	COIL	
		(JACKS)	
J1	PFJJ1T007Z	JACK, MODULATOR	S
J2	PQJJ1B4Y	JACK, DC	
		(RESISTORS)	
R1	ERJ3GEYJ155	1.5M	
R2	ERJ3GEYJ155	1.5M	
R3	ERJ3GEYJ224	220K	
R4	ERJ3GEYJ184	180K	
R5	ERJ3GEYJ224	220K	
R6	ERJ3GEYJ184	180K	
R7	ERJ3GEYJ104	100K	
R8	ERJ3GEYJ272	2.7K	
R9	ERJ3GEYJ103	10K	
R10	ERJ3GEYJ222	2.2K	
R12	PQ4R18XJ000	0	S
R16	ERJ3GEYJ133	13K	
R18	ERJ3GEYJ392	3.9K	
R19	ERJ12YJ220	22	
R20	ERJ12YJ560	56	
R21	ERJ3GEYJ104	100K	
R22	ERJ3GEYJ333	33K	
R23	ERJ3GEYJ560	56	
R25	ERJ3GEYJ391	390	
R28	ERJ3GEYJ751	750	
R29	ERJ3GEYJ101	100	
R30	ERJ3GEYJ101	100	
R31	ERJ3GEYJ101	100	
R32	ERJ3GEYJ560	56	
R38	ERJ3GEYJ330	33	
R41	ERJ3GEYJ101	100	

Ref. No.	Part No.	Part Name & Description	Remarks
R42	ERJ3GEYJ221	220	
R43	ERJ1WYJ330	33	
R44	ERJ1WYJ330	33	
R52	ERJ3GEY0R00	0	
R53	ERJ3GEYJ565	5.6M	
R54	ERJ3GEYJ184	180K	
R57	ERJ3GEYJ103	10K	
R58	ERJ3GEYJ103	10K	
R66	ERJ3GEYJ390	39	
R67	ERJ3GEYJ390	39	
R68	ERJ8GEYJ390	39	
R78	ERJ3GEYJ181	180	
R79	ERJ3GEYJ181	180	
R81	ERJ3GEYJ565	5.6M	
R82	ERJ3GEYJ184	180K	
R86	ERJ3GEY0R00	0	
R87	ERJ3GEY0R00	0	
R88	ERJ3GEY0R00	0	
R89	ERJ3GEYJ102	1K	
R90	PQ4R18XJ000	0	S
C80	PQ4R10XJ000	0	S
C86	ERJ3GEY0R00	0	
		(CAPACITORS)	
C1	ECKD2H681KB	680P	S
C2	ECKD2H681KB	680P	S
C3	ECQE2223KF	0.022	
C4	ECQE2223KF	0.022	
C11	ECUV1C223KBV	0.022	
C12	PQCUV1C474KB	0.47	
C13	PQCUV1A105KB	1	
C14	PQCUV1C224KB	0.22	
C15	ECEA1HKS100	10	S
C16	PQCUV1H154KR	0.15	
C18	ECUV1H100DCV	10P	
C19	ECUV1H100DCV	10P	
C20	ECUV1C104KBV	0.1	
C21	ECUV1H100DCV	10P	
C22	PQCUV1C224KB	0.22	
C23	ECUV1C104KBV	0.1	
C24	ECUV1C104KBV	0.1	
C25	ECEA1CKS100	10	S
C26	ECUV1C104KBV	0.1	
C27	ECUV1C104KBV	0.1	
C28	ECUV1C683KBV	0.068	
C29	ECUV1C683KBV	0.068	
C30	ECUV1H182KBV	0.0018	
C32	ECUV1H270JCV	27P	
C33	ECUV1H1R0CCV	1	
C34	ECUV1C104KBV	0.1	
C35	ECUV1C333KBV	0.033	S
C36	ECUV1C104KBV	0.1	
C37	ECUV1C104KBV	0.1	
C38	ECUV1C104KBV	0.1	
C40	ECEA1AKA101	100	

Ref. No.	Part No.	Part Name & Description	Remarks
C41	ECEA0JKA101	100	
C43	ECUV1H100DCV	10P	
C48	ECUV1H330JCV	33P	
C49	ECUV1H103KBV	0.01	
C50	ECUV1H100DCV	10P	
C53	ECUV1H100DCV	10P	
C54	ECUV1H060DCV	6P	S
C55	ECUV1H100DCV	10P	
C56	ECUV1H100DCV	10P	
C57	ECUV1H030CCV	3P	
C58	ECUV1H020CCV	2P	
C66	ECUV1H020CCV	2P	
C67	ECUV1A475KB	4.7	
C69	ECUV1H020CCV	2P	
C72	ECUV1H020CCV	2P	
C73	ECUV1H100DCV	10P	
C74	ECUV1H103KBV	0.01	
C76	ECUV1H060DCV	6P	S
C78	ECUV1H100DCV	10P	
C89	ECUV1H102KBV	0.001	
C90	ECUV1H101JCV	100P	
C94	ECUV1H0R5CCV	0.5	
C96	ECUV1H100DCV	10P	
C97	PQCUV1H100DC	10P	
C98	PQCUV1H0R5CC	0.5	
C99	PQCUV1H100DC	10P	
		(OTHERS)	
IC3	J3FKK0000003	RF UNIT	
S1	K0H1BB000018	SPECIAL SWITCH, TACTILE	
SA1	J0LF00000026	VARISTOR (SURGE ABSORBER)	S
X1	H0D103500003	CRYSTAL OSCILLATOR	

35.2. Handset

35.2.1. Cabinet and Electrical Parts

Ref. No.	Part No.	Part Name & Description	Remarks
101	PQGP10225X2	PANEL, LCD (for KX-A143EXC)	AS-HB
101	PQGP10225X1	PANEL, LCD (for KX-A143EXF)	AS-HB
102	PQKM10587Z2	CABINET BODY (for KX-A143EXC)	ABS-HB
102	PQKM10587Z1	CABINET BODY (for KX-A143EXF)	ABS-HB
103	PQHS10553Z	TAPE, DOUBLE SIDE	
104	PQHS10554Z	SPACER, LCD	
105	PQBC10375Z1	PUSH BUTTON, NAVI	
106	PQSX10224S	KEYBOARD SWITCH, 20KEY (for KX-A143EXC)	
106	PQSX10224T	KEYBOARD SWITCH, 20KEY (for KX-A143EXF)	
107	PQHR10963Z	GUIDE,LCD HOLDER	
108	PQHS10486Z	TAPE, HEATSEAL	
109	PQHS10594Z	TAPE, DOUBLE SIDE	
110	L5ACADC00020	LIQUID CRYSTAL DISPLAY	
111	PQHS10467Z	COVER, SP NET	
112	L0AD02A00016	SPEAKER	
113	PQSA10133Z	ANTENNA	
114	PQJT10204Z	TERMINAL (L)	
115	PQJT10205Z	TERMINAL (R)	
116	PQHX11202Z	INSULATOR	
117	PQJC10058Z	BATTERY TERMINAL (+)	
118	PQJC10057Z	BATTERY TERMINAL (-)	
119	PQJC10056Z	BATTERY TERMINAL	
120	PQKF10582Z2	CABINET COVER (for KX-A143EXC)	ABS-HB
120	PQKF10582Z1	CABINET COVER (for KX-A143EXF)	ABS-HB
121	PQGT16675Z	NAME PLATE (for KX-A143EXC)	
121	PQGT16792Z	NAME PLATE (for KX-A143EXF)	
122	PQHX11253Y	PLASTIC PARTS, BATTERY COVER SHEET	
123	PQHS10561Y	SPACER, BATTERY COVER	
124	PQKK10134Z2	LID, BATTERY COVER (for KX-A143EXC)	ABS-HB
124	PQKK10134Z1	LID, BATTERY COVER (for KX-A143EXF)	ABS-HB

35.2.2. Main P.C.Board Parts

Note:
(*2) When replacing IC2, data need to be written to it with PQZZTCD430G.

Ref. No.	Part No.	Part Name & Description	Remarks
PCB100	PQWP1D430GR	MAIN P.C.BOARD ASS'Y (RTL) (for KX-TCD430GC)(for KX-TCD430GF)(for KX-TCD432GC)(for KX-TCD432GF)	
PCB100	PQWP1D143EXR	MAIN P.C.BOARD ASS'Y (RTL) (for KX-A143EXC)(for KX-A143EXF)	
		(ICs)	
IC1	C2HBAK000009	IC	
IC2	PQWI1D430GR	IC (for KX-TCD430GC)(for KX-TCD430GF)(for KX-TCD432GC)(for KX-TCD432GF) (*2)	S
IC2	PQWI1D143EXR	IC (for KX-A143EXC)(for KX-A143EXF) (*2)	
		(TRANSISTORS)	
Q1	B1CFMC000006	TRANSISTOR(SI)	
Q2	B1ADGE000004	TRANSISTOR(SI)	
Q3	UN5216	TRANSISTOR(SI)	S
		(DIODES)	
D1	B0JCME000035	DIODE(SI)	
D3	MA2Z74800L	DIODE(SI)	
D4	MAZ83900ML	DIODE(SI)	
D6	MA2Z74800L	DIODE(SI)	
D7	MA2Z74800L	DIODE(SI)	
		(COILS)	
L2	G1A470L00001	COIL	
L3	PQLQR4D4R7K	COIL	
L4	G1C100MA0072	COIL	
L5	G1C100MA0072	COIL	
F1	PQLQR2M5N6K	COIL	S
		(RESISTORS)	
R1	ERJ3GEYJ222	2.2K	
R2	ERJ8BQJR30	0.3	
R3	ERJ3GEYJ560	56	
R4	ERJ3GEYJ103	10K	
R5	ERJ3GEYJ331	330	
R6	ERJ3GEYJ332	3.3K	
R7	ERJ3GEYJ331	330	
R8	ERJ3GEYJ331	330	
R11	ERJ3GEY0R00	0	
R17	ERJ3GEY0R00	0	
R18	ERJ3GEYJ330	33	
R19	ERJ3GEYJ153	15K	
R20	ERJ3GEY0R00	0	
R21	ERJ6RSJR10V	0.1	
R22	ERJ3GEY0R00	0	
R23	ERJ3GEYJ2R2	2.2	
R24	ERJ3GEY0R00	0	
		(CAPACITORS)	
C2	ECUV1A475KB	4.7	
C3	ECUV1C104KBV	0.1	
C4	ECUV1C104KBV	0.1	
C5	ECST0JY475	4.7	
C6	ECUV1H100DCV	10P	
C7	ECUV1C104KBV	0.1	
C8	ECUV1H100DCV	10P	
C14	EEE1AA221P	220P	
C15	EEE1AA221P	220P	
C16	ECUV1H1R0CCV	1	
C17	ECUV1H180JCV	18P	

Ref. No.	Part No.	Part Name & Description	Remarks
C18	ECUV1C104KBV	0.1	
C20	ECUV1C104KBV	0.1	
C21	ECUV1C104KBV	0.1	
C22	ECUV1C104KBV	0.1	
C23	ECUV1C104KBV	0.1	
C24	ECUV1C104KBV	0.1	
C26	ECUV1C104KBV	0.1	
C27	ECUV1C104KBV	0.1	
C28	ECUV1C104KBV	0.1	
C29	ECUV1C104KBV	0.1	
C30	ECUV1C104KBV	0.1	
C33	ECUV1A225KB	2.2	
C54	ECUV1H100DCV	10P	
C55	ECUV1H020CCV	2P	
C56	ECUV1H020CCV	2P	
C57	ECUV1H330JCV	33P	
C60	ECUV1A475KB	4.7	
C62	ECUV1A105KBV	1	
C63	ECUV1H030CCV	3P	
C64	ECUV1A105KBV	1	
C65	ECUV1H030CCV	3P	
C66	ECUV1H020CCV	2P	
C67	ECUV1H100DCV	10P	
C68	ECUV1H100DCV	10P	
		(OTHERS)	
MIC	L0CBAB000069	BUILTIN-MICROPHONE	
IC3	J3FKK0000003	RF UNIT	
X1	H0D103500002	CRYSTAL OSCILLATOR	

35.3. Charger Unit

35.3.1. Cabinet and Electrical Parts

Ref. No.	Part No.	Part Name & Description	Remarks
1	PQLV30018ZC	ACCESSORY PARTS, CHARGER UNIT (for KX-TCD432GC)	
1	PQLV30018ZF	ACCESSORY PARTS, CHARGER UNIT (for KX-TCD432GF)	
1-1	PQGG10155Z2	GRILLE (for KX-TCD432GC)	ABS-HB
1-1	PQGG10155Z1	GRILLE (for KX-TCD432GF)	
1-2	PQKM10591Y1	CABINET BODY	PS-HB
1-3	PQKE10356Z2	GUIDE, CHARGE TERMINAL CASE	POM-HB
1-4	PQJT10206Z	CHARGE TERMINAL	
1-5	PQHX10991Z	CUSHION, URETHANE FORM	
1-6	PQMH10426Z	WEIGHT	
1-7	PQKF10586Z1	CABINET COVER	PS-HB
1-8	PQGT16725Z	NAME PLATE (for KX-TCD432GC)	
1-8	PQGT16750Z	NAME PLATE (for KX-TCD432GF)	

35.3.2. Main P.C.Board Parts

Ref. No.	Part No.	Part Name & Description	Remarks
PCB200	PQWPA142ESCH	MAIN P.C.BOARD ASS'Y (RTL)	
		(DIODE)	
D1	B0JAME000085	DIODE(SI)	
		(JACK)	
J1	PQJJ1B4Y	JACK	S
		(RESISTORS)	
R1	ERJ1WYJ220	22	
R2	ERJ1WYJ270	27	

35.4. Accessories and Packing Materials

35.4.1. KX-TCD430GC/GF

Ref. No.	Part No.	Part Name & Description	Remarks
A1	PQLV19CEZ	AC ADAPTOR	⚠
A2	PQJA10139Z	CORD, TELEPHONE	
A3	PQQX14005Z	INSTRUCTION BOOK	
A4	PQQW12846W	LEAFLET, RECHARGE	
P1	PQPP10100Z	PROTECTION COVER (for Base Unit)	
P2	PQPP10084Z	PROTECTION COVER (for Handset)	
P3	PQPK14244Z	GIFT BOX	
P4	PQPD10603Z	CUSHION	
P5	PQPD10620Z	CUSHION	

35.4.2. KX-TCD432GC/GF

Ref. No.	Part No.	Part Name & Description	Remarks
A1	PQLV19CEZ	AC ADAPTOR (for Base Unit)	⚠
A2	PQLV200CEZ	AC ADAPTOR (for Charger)	
A3	PQJA10139Z	CORD, TELEPHONE	
A4	PQQX14005Z	INSTRUCTION BOOK	
A5	PQQW13244Z	LEAFLET	
A6	PQQW12846W	LEAFLET, RECHARGE	
P1	PQPP10100Z	PROTECTION COVER (for Base Unit)	
P2	PQPP10084Z	PROTECTION COVER (for Handset)	
P3	PQPP10086Z	PROTECTION COVER (for Charger)	
P4	PQPK14245Z	GIFT BOX	
P5	PQPD10563Z	CUSHION	

35.4.3. KX-A143EXC/EXF

Ref. No.	Part No.	Part Name & Description	Remarks
A1	PQLV200CEZ	AC ADAPTOR	⚠
A2	PQQX14007Z	INSTRUCTION BOOK	
A3	PQQW12846W	LEAFLET, RECHARGE	
P1	PQPP10086Z	PROTECTION COVER (for Charger Unit)	
P2	PQPP10084Z	PROTECTION COVER (for Handset)	
P3	PQPK14247Z	GIFT BOX	

35.5. Fixtures and Tools

Part No.	Part Name & Description	Remarks
PQZZTCD705BX	I2C PCB	
PQZZ1CD705BX	RS232C CABLE	
PQZZ2CD705BX	CLIP CABLE	
PQZZ3CD705BX	DC CABLE	
PQZZTCD430G	BATCH FILE	

Note:
See CHECK PROCEDURE (BASE UNIT) (), and CHECK PROCEDURE (HANDSET) ().

35.6. Memo

36. SCHEMATIC DIAGRAM (BASE UNIT)

37. SCHEMATIC DIAGRAM (HANDSET)

38. SCHEMATIC DIAGRAM (CHARGER UNIT)

39. CIRCUIT BOARD (BASE UNIT)

39.1. Component View

39.2. Flow Solder Side View

40. CIRCUIT BOARD (HANDSET)

40.1. Component View

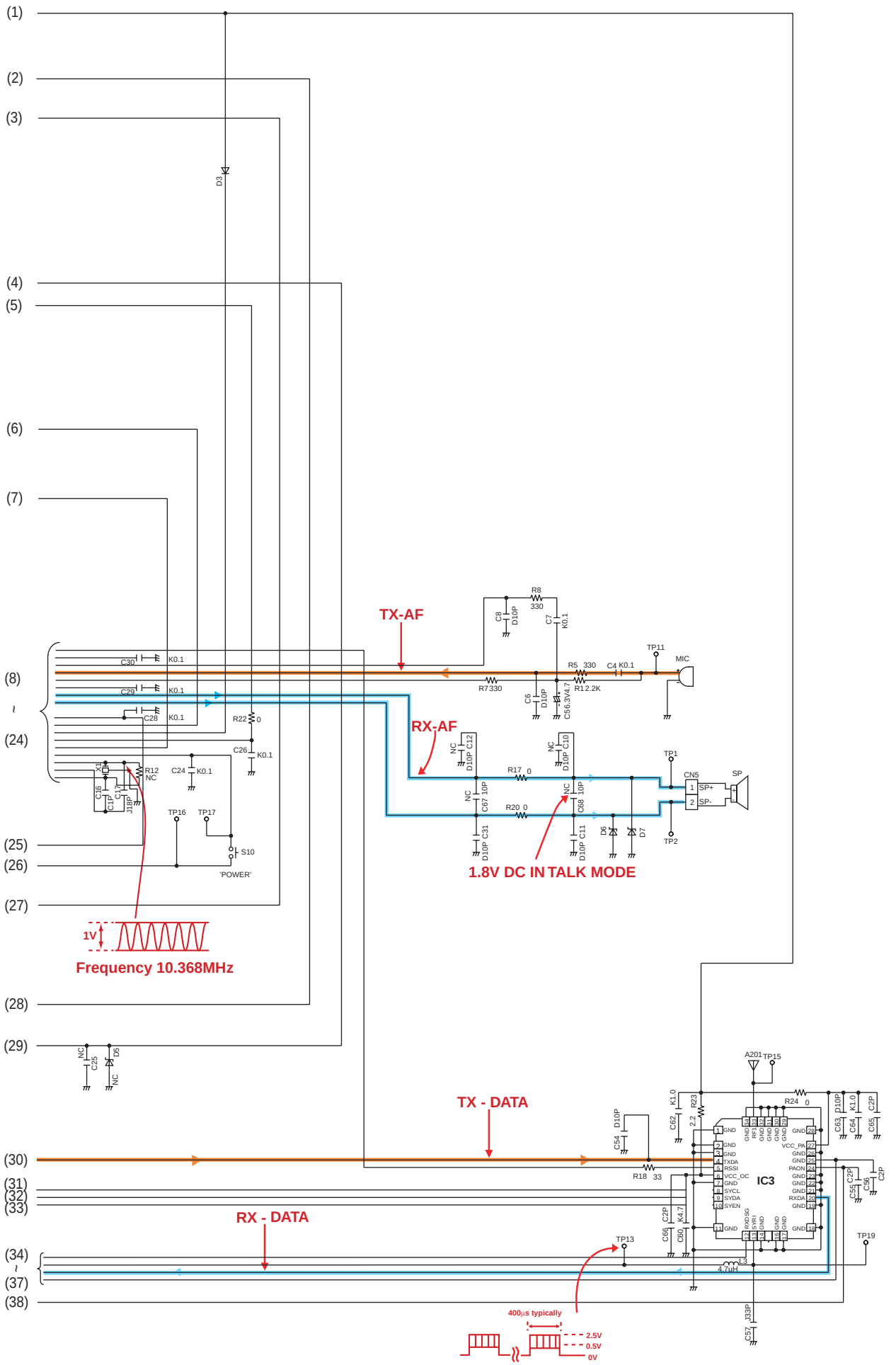
40.2. Flow Solder Side View

41. CIRCUIT BOARD (CHARGER UNIT)

41.1. Component View

41.2. Flow Solder Side View

I.N. / KXTCD430GC / KXTCD430GF / KXTCD432GC / KXTCD432GF / KXA143EXC / KXA143EXF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RX-AF
1.8V DC IN TALK MODE
TX - DATA
RX - DATA
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Frequency 10.368MHz
'POWER'
400µs typically
2.5V
0.5V
0V
IC3
MIC
SP
CN5
TP1
TP2
TP11
TP13
TP15
TP16
TP17
TP19
A201
S10
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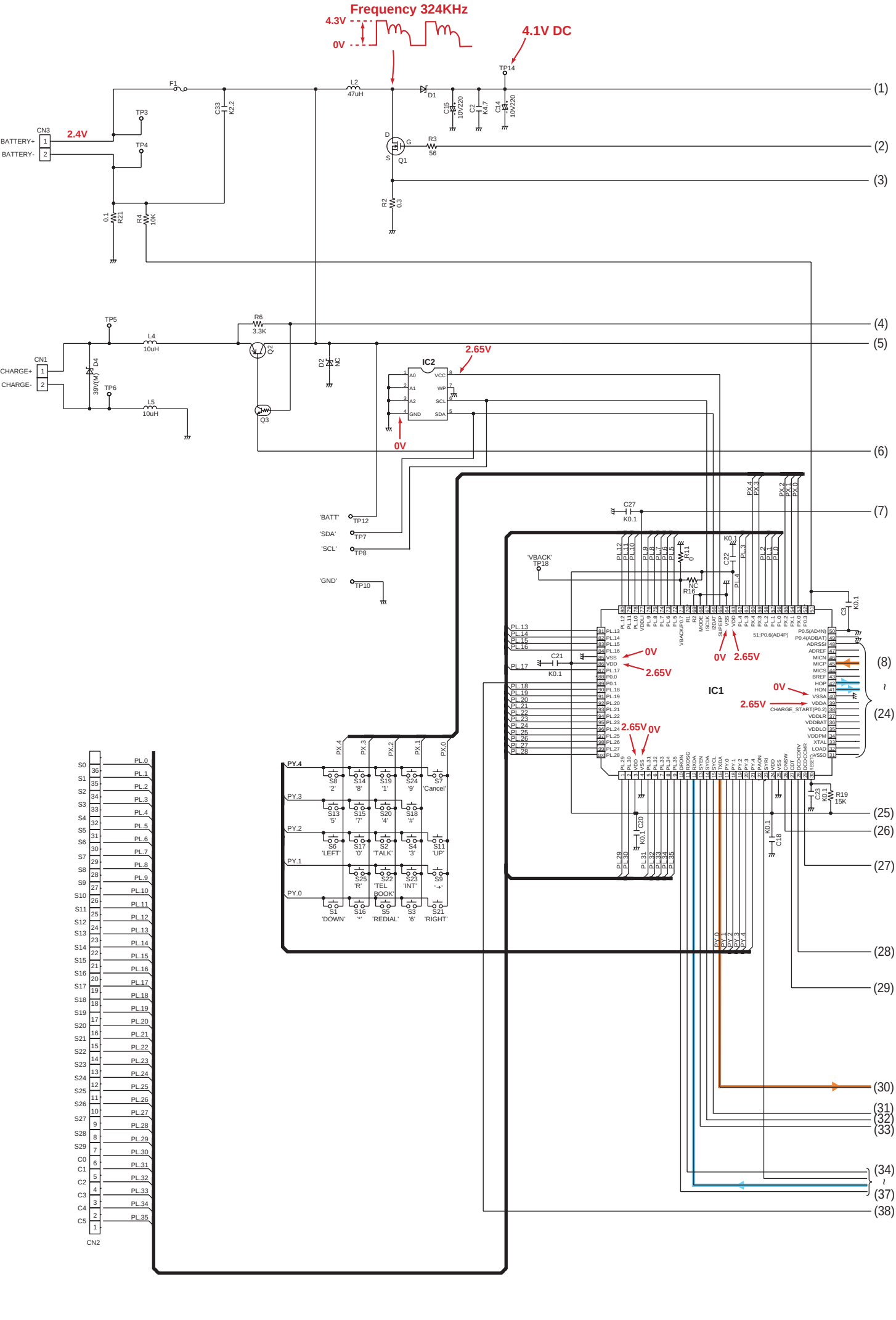
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0V
4.1V DC
TP14
F1
L2
47uH
D1
C15
10V220
C2
K4.7
C14
10V220
CN3
BATTERY+
BATTERY-
2.4V
TP3
TP4
C33
K2.2
D
G
S
Q1
R3
56
R2
0.3
0.1
R21
R4
10K
TP5
L4
10uH
R6
3.3K
Q2
CN1
CHARGE+
CHARGE-
D4
39V(M)
TP6
L5
10uH
Q3
D2
NC
IC2
2.65V
0V
A0
A1
A2
GND
VCC
WP
SCL
SDA
'BATT'
TP12
'SDA'
TP7
'SCL'
TP8
'GND'
TP10
'VBACK'
TP18
C27
K0.1
R11
0
NC
R16
C22
C3
C21
IC1
0V
2.65V
CHARGE_START(P0.2)
C23
R19
15K
C20
C18
PX.4
PX.3
PX.2
PX.1
PX.0
PY.4
PY.3
PY.2
PY.1
PY.0
S8
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S14
'8'
S19
'1'
S24
'9'
S7
'Cancel'
S13
'5'
S15
'7'
S20
'4'
S18
'#'
S6
'LEFT'
S17
'0'
S2
'TALK'
S4
'3'
S11
'UP'
S25
'R'
S22
'TEL BOOK'
S23
'INT'
S9
'*'
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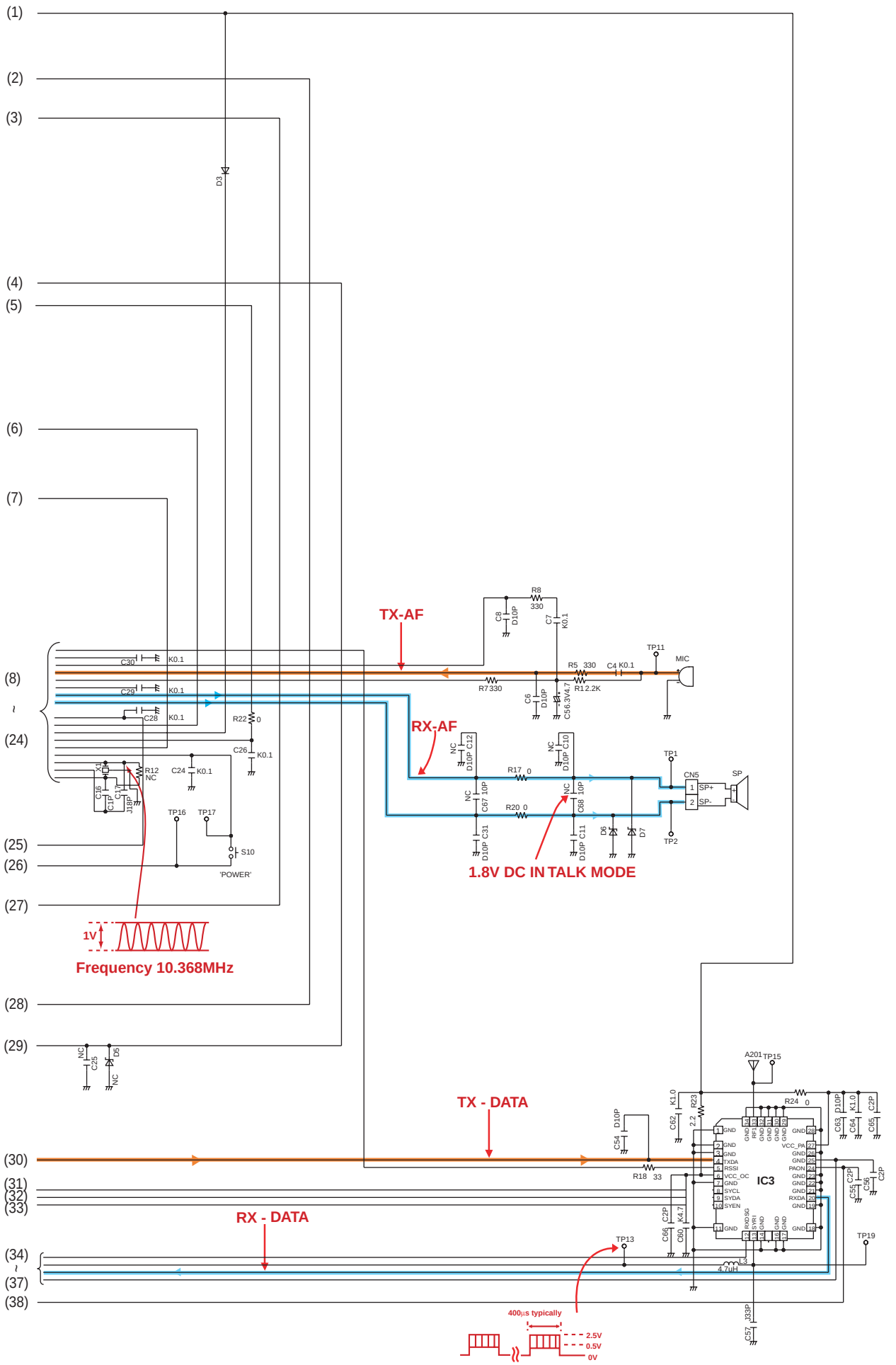
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RX-AF
1.8V DC IN TALK MODE
TX - DATA
RX - DATA
1v
Frequency 10.368MHz
'POWER'
400µs typically
2.5V
0.5V
0V
IC3
MIC
SP
CN5
TP1
TP2
TP11
TP13
TP15
TP16
TP17
TP19
A201
S10
(1)
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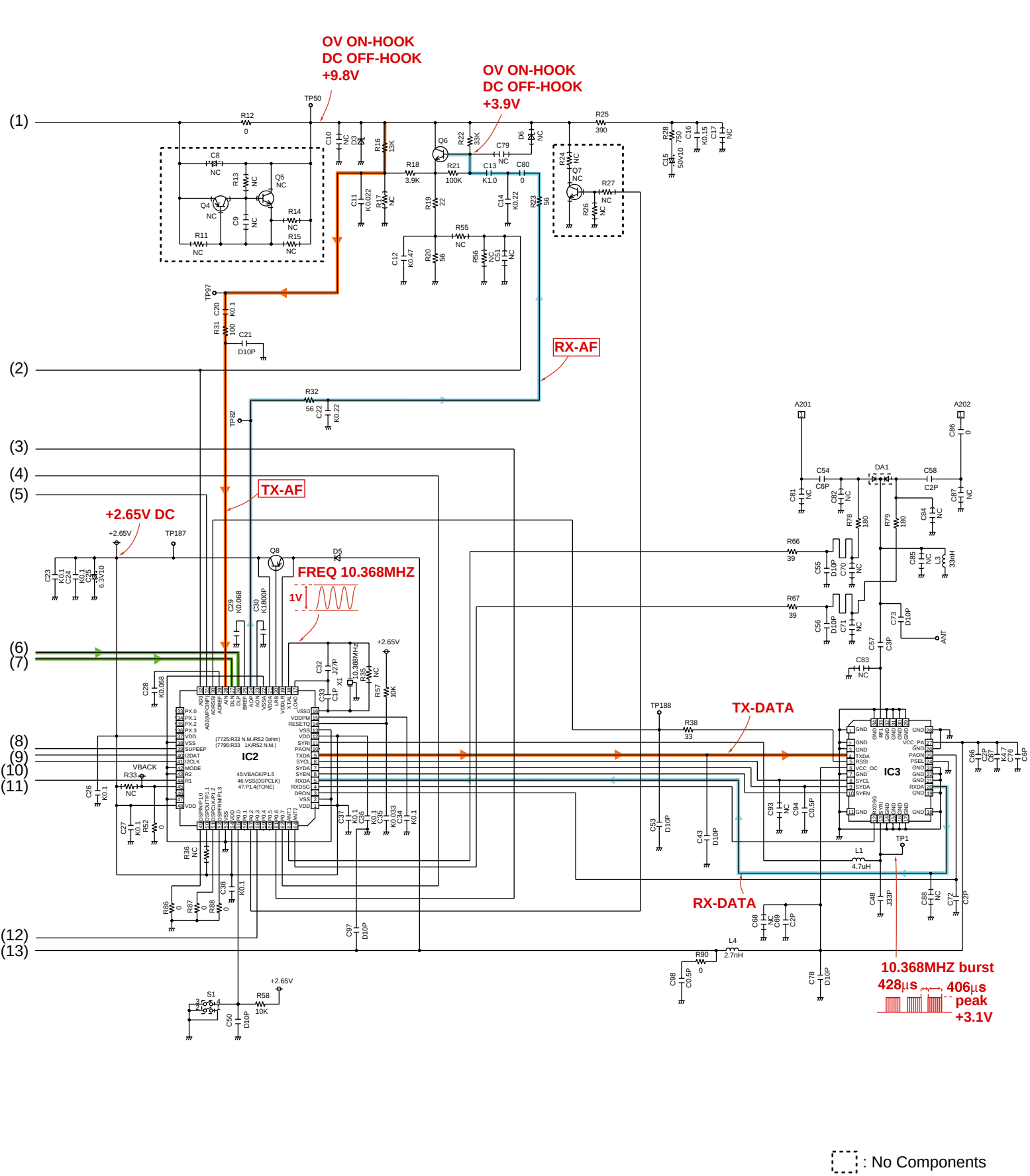

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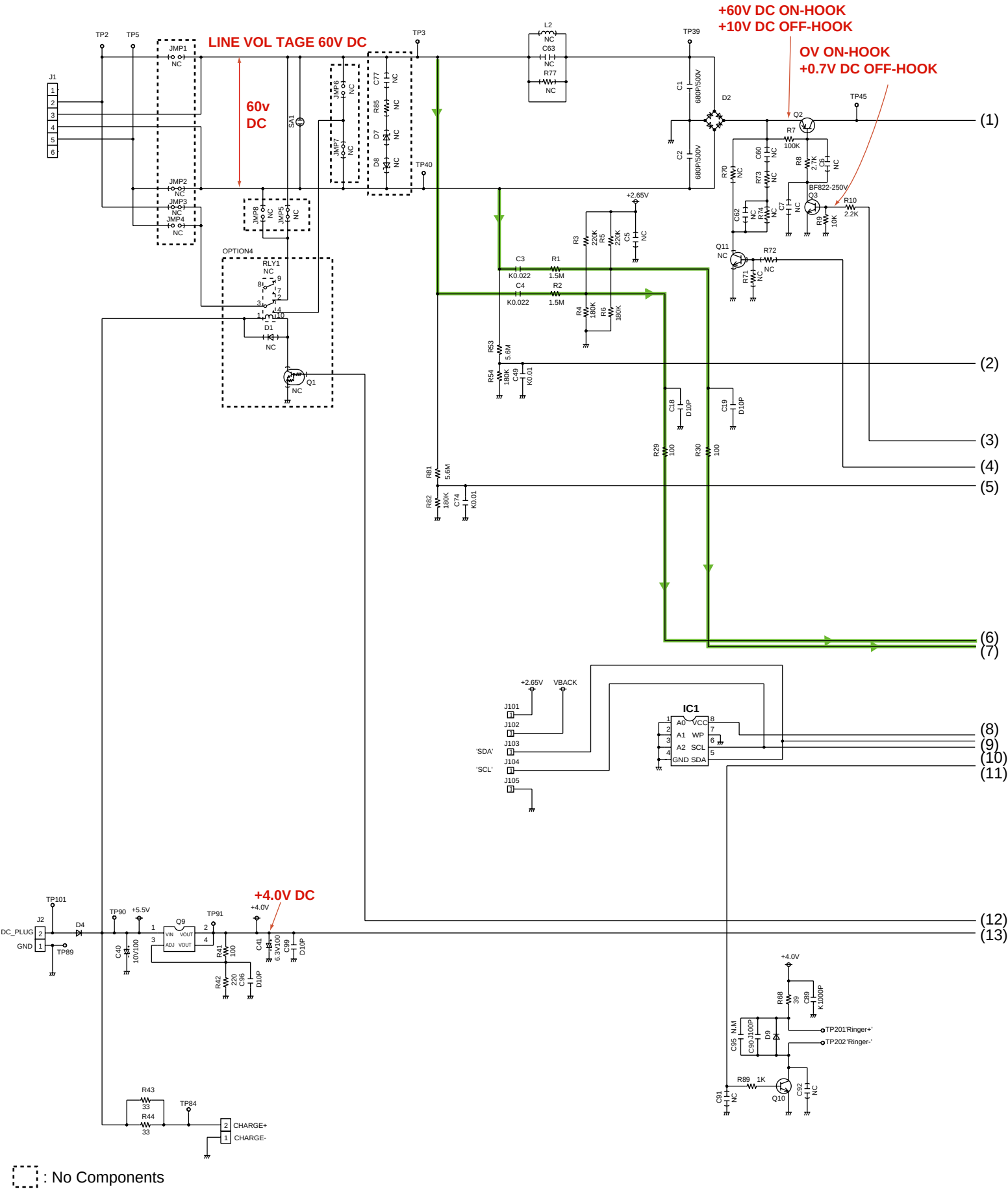
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+10V DC OFF-HOOK
OV ON-HOOK
+0.7V DC OFF-HOOK
LINE VOL TAGE 60V DC
60v DC
+4.0V DC
TP2
TP5
TP3
TP39
TP40
TP45
TP101
TP90
TP91
TP89
TP84
J1
J2
JMP1
JMP2
JMP3
JMP4
JMP5
JMP6
JMP7
JMP8
SA1
OPTION4
RLY1
D1
Q1
D2
Q2
Q3
Q10
Q11
L2
C63
R77
C1
C2
R7
100K
R8
2.7K
R10
2.2K
BF822-250V
R70
R72
R73
R74
R71
C60
C5
C6
C7
C8
R9
10K
+2.65V
C3
K0.022
C4
K0.022
R1
1.5M
R2
1.5M
R3
220K
R5
220K
C5
R4
180K
R6
180K
R53
5.6M
R54
180K
C49
K0.01
C18
D10P
C19
D10P
R29
100
R30
100
R81
5.6M
R82
180K
C74
K0.01
VBACK
J101
J102
J103
J104
J105
'SDA'
'SCL'
IC1
A0
A1
A2
GND
VCC
WP
SCL
SDA
D4
DC_PLUG
GND
+5.5V
Q9
VIN
VOUT
ADJ
C40
10V100
R41
100
R42
220
C96
D10P
C41
6.3V100
C99
D10P
R43
33
R44
33
CHARGE+
CHARGE-
R68
39
C89
K.1000P
C95
N.M
C90
100P
D9
TP201'Ringer+'
TP202'Ringer-'
R89
1K
C91
C92
(1)
(2)
(3)
(4)
(5)
(6)
(7)
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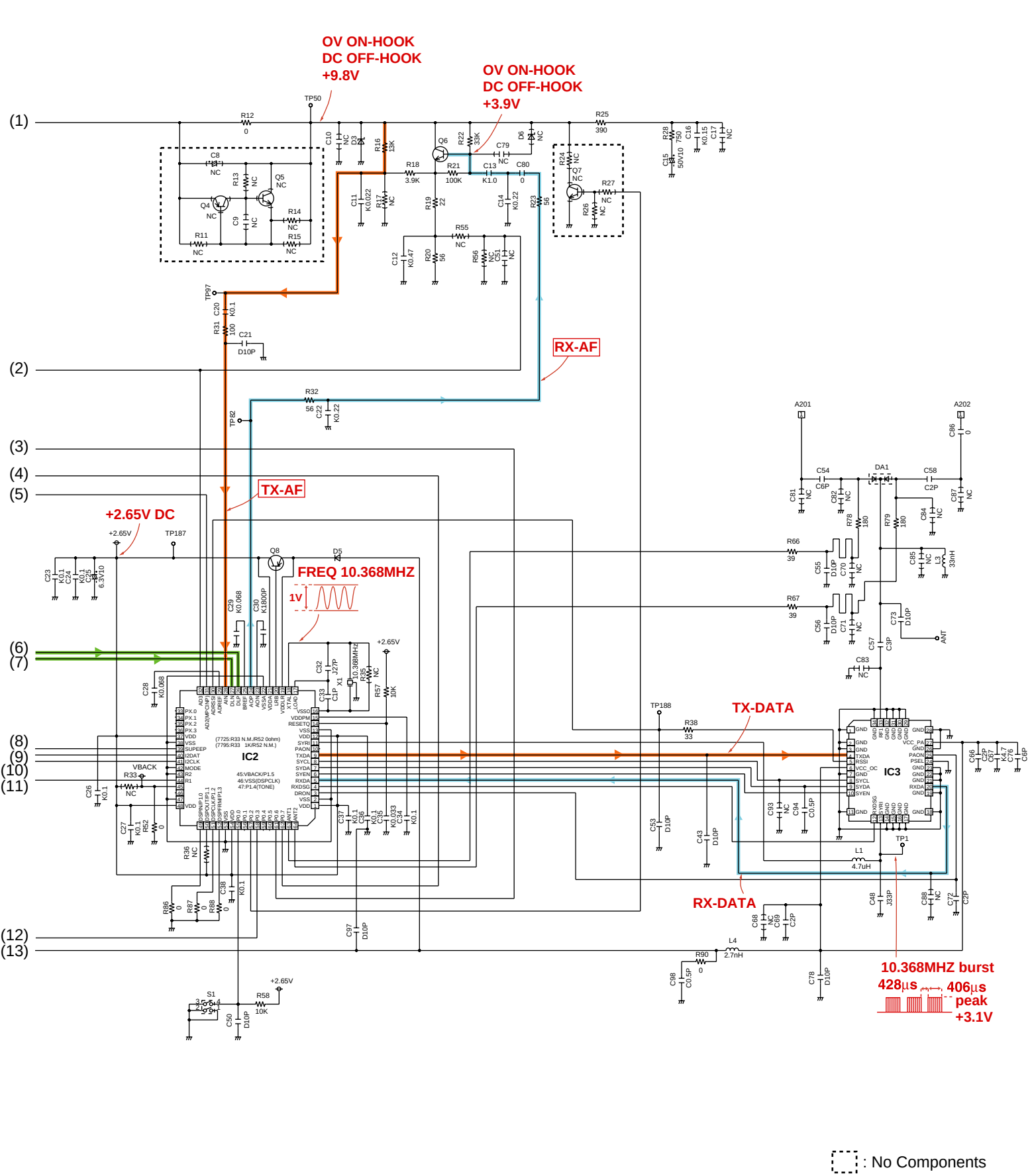
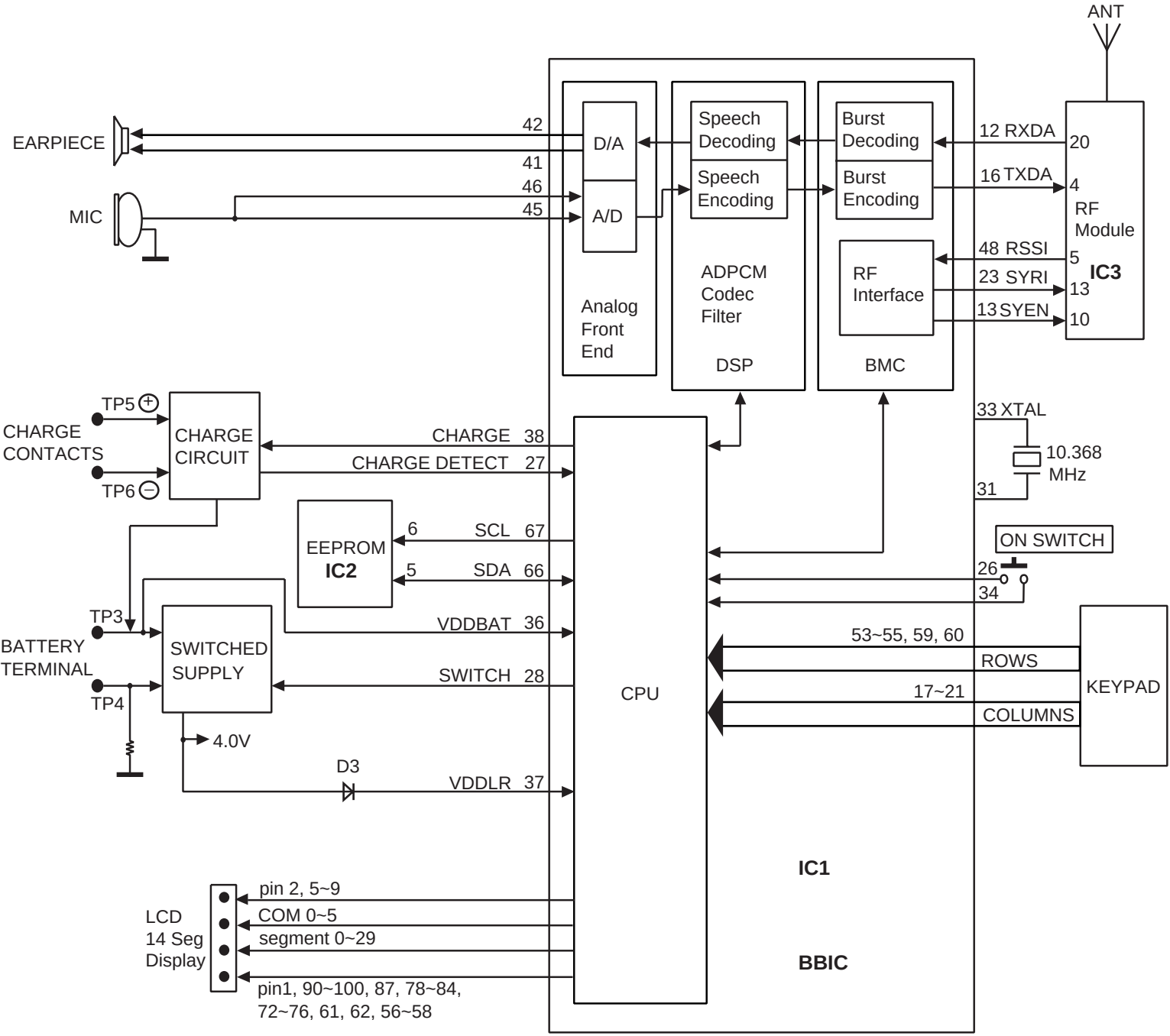
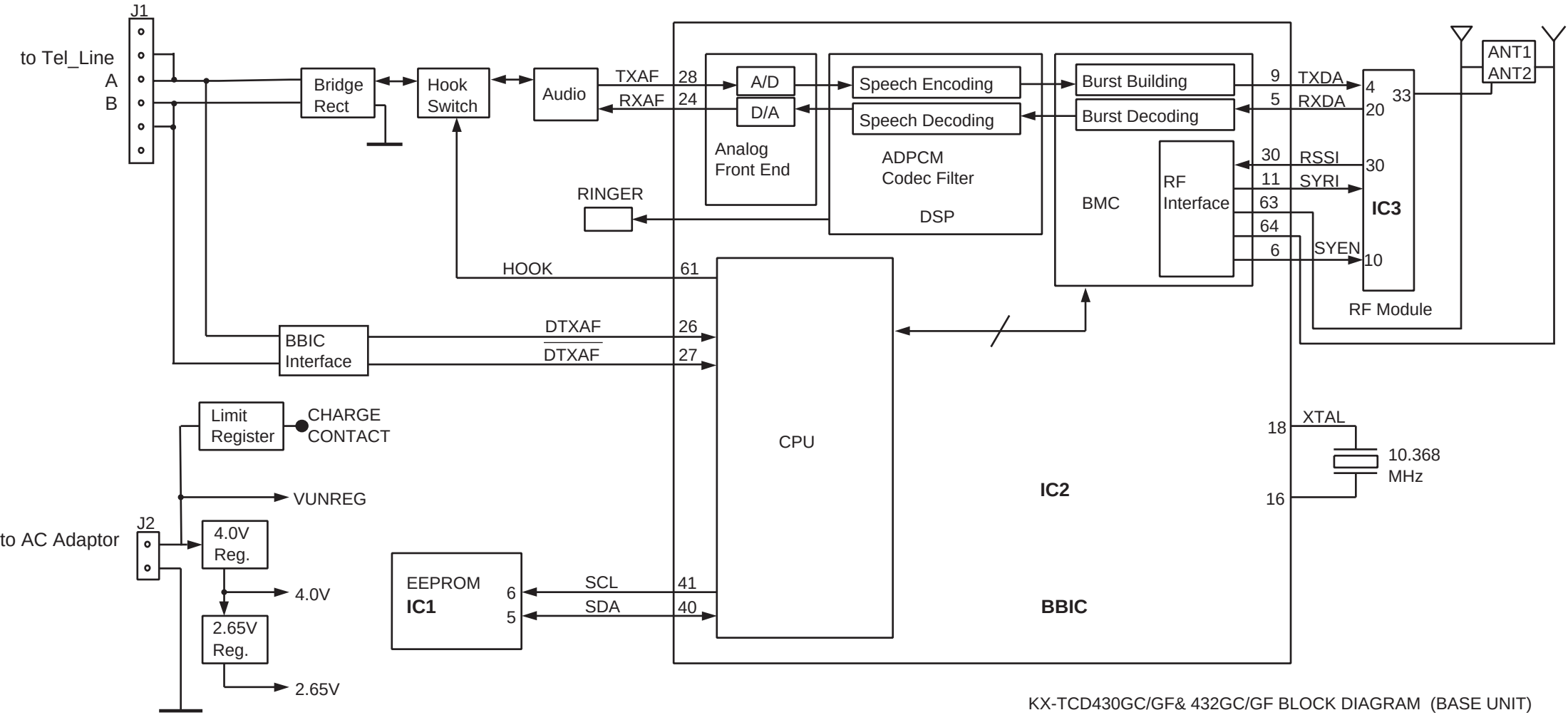
(13)
: No Components



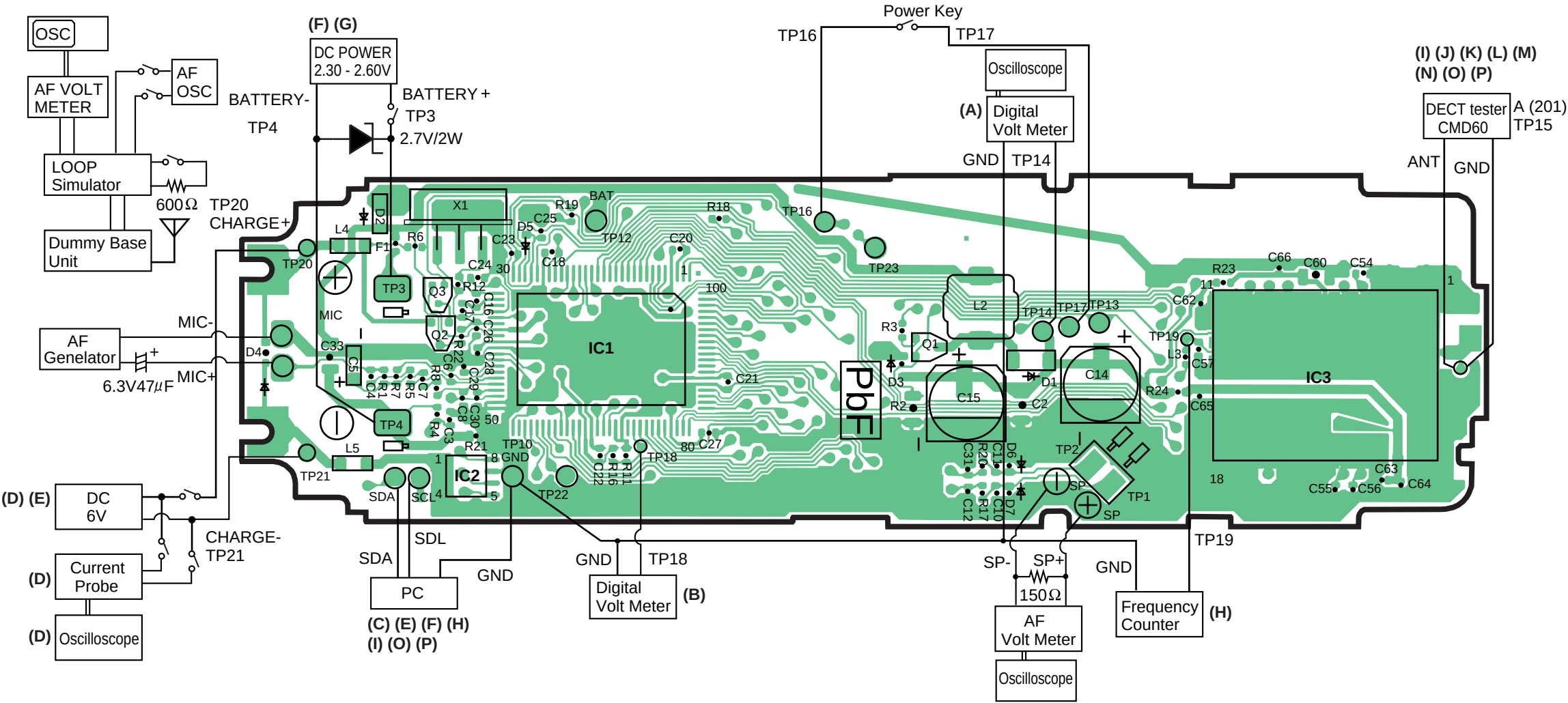
: No Components

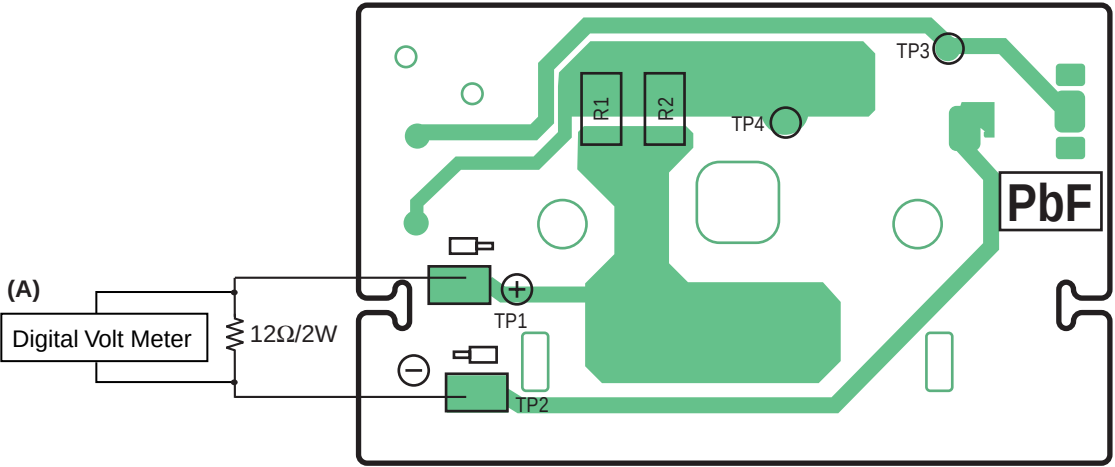


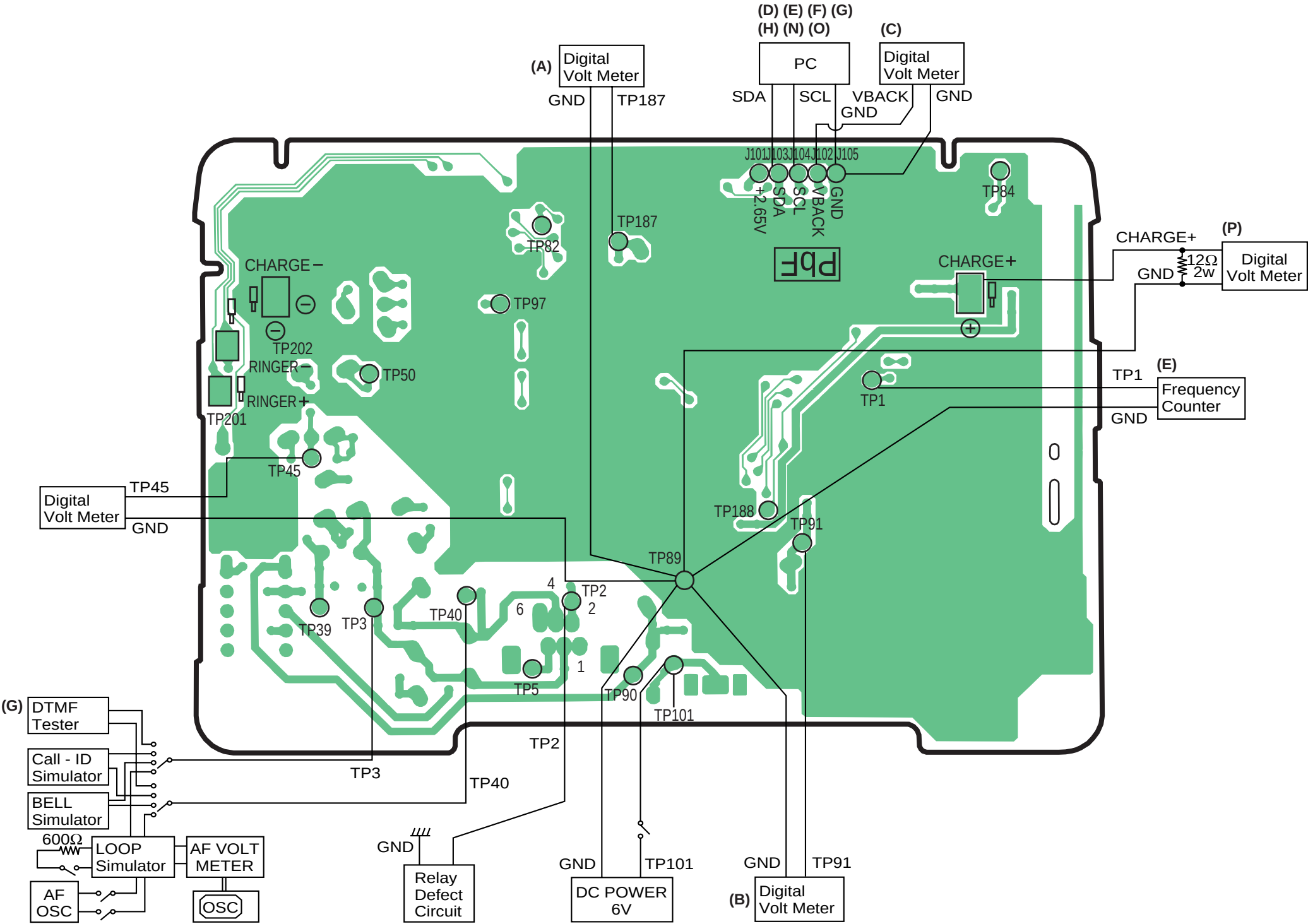
KX-A143EXC/EXF BLOCK DIAGRAM (HANDSET)

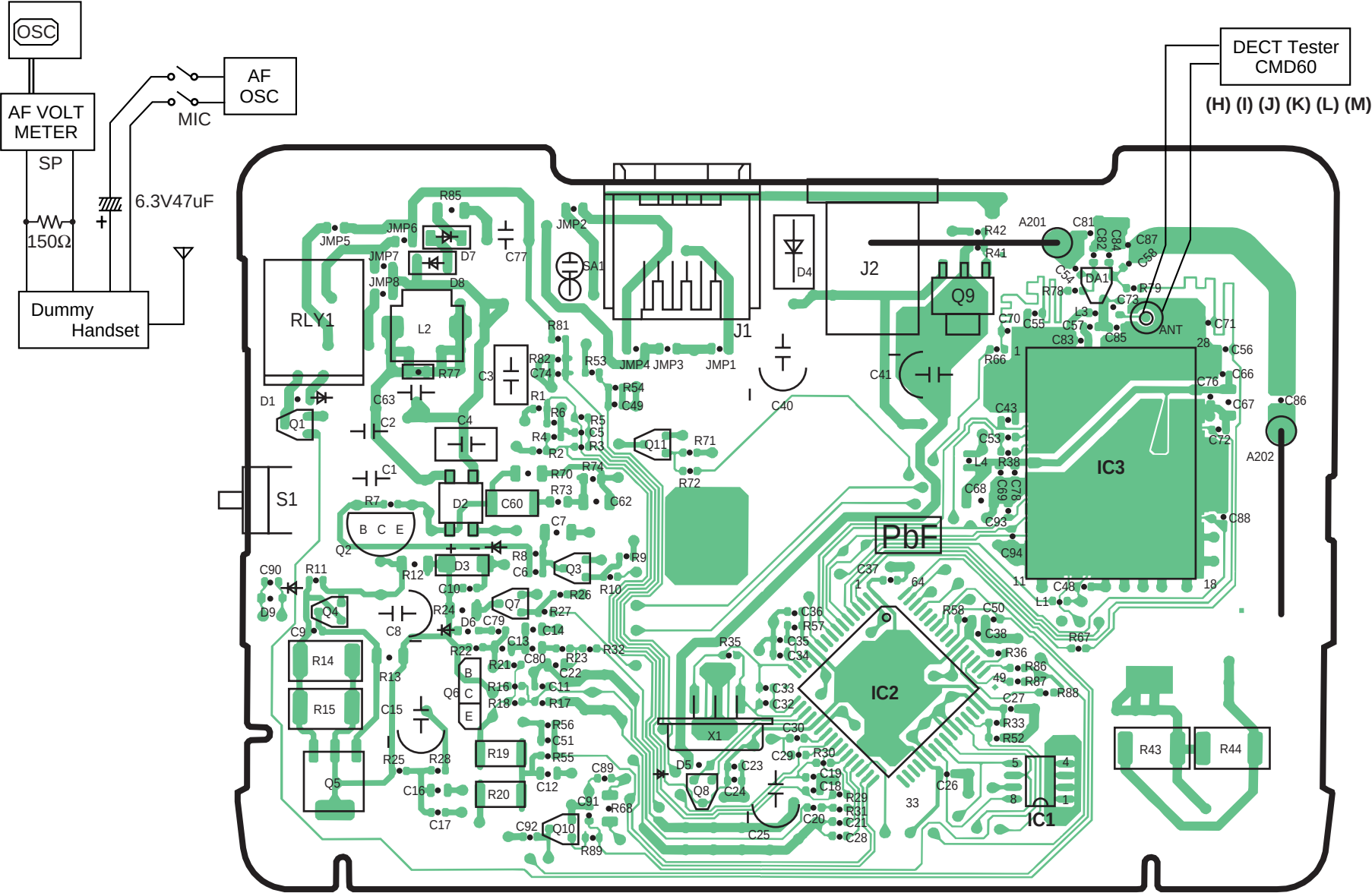


KX-TCD430GC/GF& 432GC/GF BLOCK DIAGRAM (BASE UNIT)

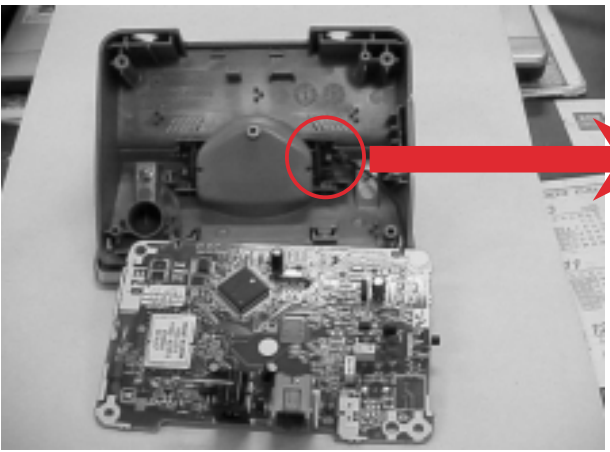

OSC
AF VOLT METER
AF OSC
LOOP Simulator
600Ω
Dummy Base Unit
TP20
CHARGE+
(F) (G)
DC POWER 2.30 - 2.60V
BATTERY-
TP4
BATTERY+
TP3
2.7V/2W
Power Key
TP16
TP17
Oscilloscope
(A)
Digital Volt Meter
GND
TP14
(I) (J) (K) (L) (M) (N) (O) (P)
DECT tester CMD60
A (201)
TP15
ANT
GND
MIC-
AF Genelator
6.3V47μF
MIC+
MIC
IC1
IC2
IC3
PbF
TP1
TP2
TP10 GND
TP12
TP13
TP18
TP19
TP20
TP21
TP22
TP23
SDA
SCL
SDL
SP
SP-
SP+
150Ω
(D) (E)
DC 6V
CHARGE-
TP21
(D)
Current Probe
(D)
Oscilloscope
(C) (E) (F) (H) (I) (O) (P)
PC
GND
SDA
SDL
GND
TP18
Digital Volt Meter
(B)
AF Volt Meter
Oscilloscope
GND
Frequency Counter
(H)

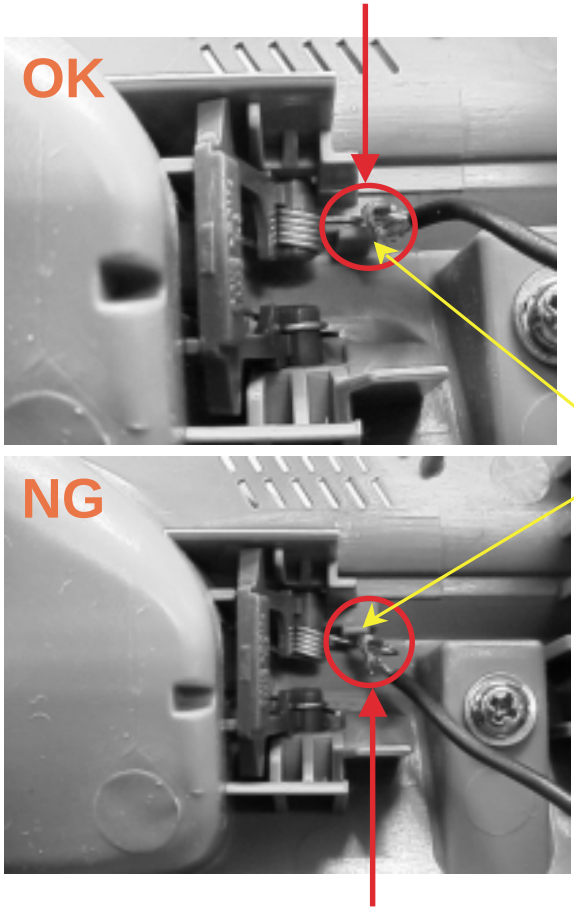

(A)
Digital Volt Meter
12Ω/2W
TP1
TP2
TP3
TP4
R1
R2
PbF


(D) (E) (F) (G)
(H) (N) (O)
(C)
(A)
Digital Volt Meter
PC
Digital Volt Meter
GND
TP187
SDA
SCL
VBACK
GND
GND
J101 J103 J104 J102 J105
+2.65V
SDA
SCL
VBACK
GND
TP84
TP187
TP82
CHARGE+
(P)
CHARGE−
GND
12Ω 2w
Digital Volt Meter
TP97
CHARGE+
TP202
RINGER−
TP50
TP1
(E)
RINGER+
TP201
TP1
Frequency Counter
GND
TP45
TP45
Digital Volt Meter
GND
TP188
TP91
TP89
4
TP2
2
6
TP40
TP39
TP3
1
TP5
TP90
TP101
(G)
DTMF Tester
Call - ID Simulator
BELL Simulator
TP2
TP3
TP40
600Ω
LOOP Simulator
AF VOLT METER
AF OSC
OSC
GND
Relay Defect Circuit
GND
TP101
DC POWER 6V
GND
TP91
(B)
Digital Volt Meter

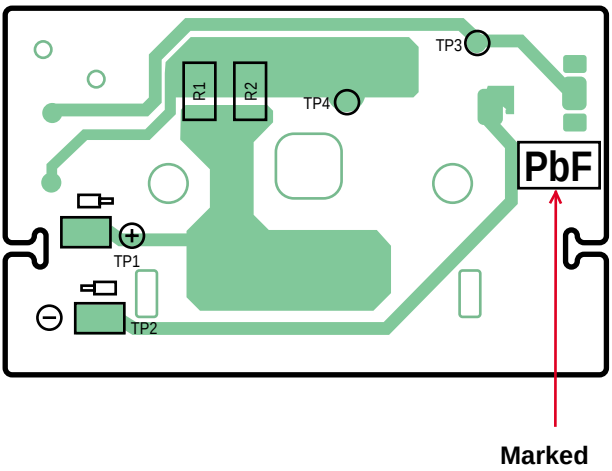

OSC
AF VOLT METER
SP
150Ω
6.3V47uF
Dummy Handset
AF OSC
MIC
DECT Tester CMD60
(H) (I) (J) (K) (L) (M)
RLY1
S1
J1
J2
SA1
IC1
IC2
IC3
Q9
X1
ANT
A201
A202
PbF
R85
JMP6
JMP5
JMP7
JMP8
D7
D8
C77
L2
R77
C3
R81
R82
C74
R53
JMP4
JMP3
JMP1
JMP2
R54
C49
C40
D4
C41
R42
R41
C81
C82
C83
C87
C58
C54
DA1
R78
R79
C73
L3
C70
C55
C57
C85
C71
C56
C66
C67
C86
C72
R66
C43
C53
L4
R38
C68
C69
C78
C93
C94
C88
C48
L1
C37
C36
R57
C35
C34
R35
C33
C32
C30
R30
C29
C19
C18
R29
R31
C21
C28
C20
C25
C26
R58
C50
C38
R67
R36
R86
R87
R88
C27
R33
R52
R43
R44
D5
Q8
C23
C24
C89
R68
C91
C92
Q10
R89
C12
R19
R20
R55
R56
C51
C16
C17
R25
R28
C15
Q5
R14
R15
R13
C8
C9
Q4
D9
C90
R11
R12
C10
R24
D6
C79
C14
C13
C80
R23
R32
R22
R21
C22
C11
R16
R18
R17
Q6
B
C
E
D3
C6
R8
Q3
R9
R10
R26
Q7
R27
C7
D2
C60
C62
R74
R70
R73
R71
Q11
R72
R4
R5
C5
R3
R2
R6
R1
C4
C2
C1
C63
D1
Q1
Q2
B C E
R7

CHG terminal is properly fit in the cabinet.

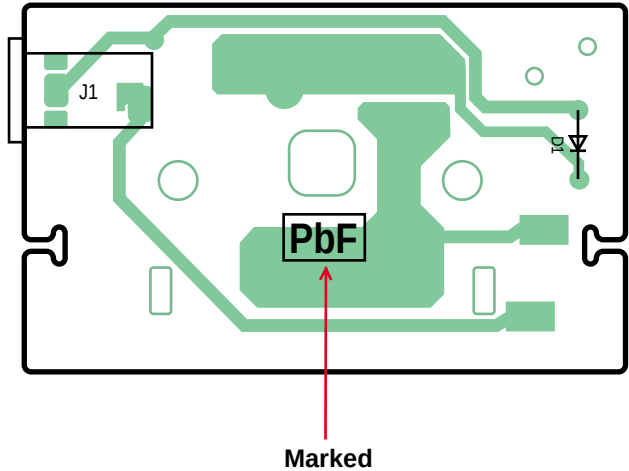




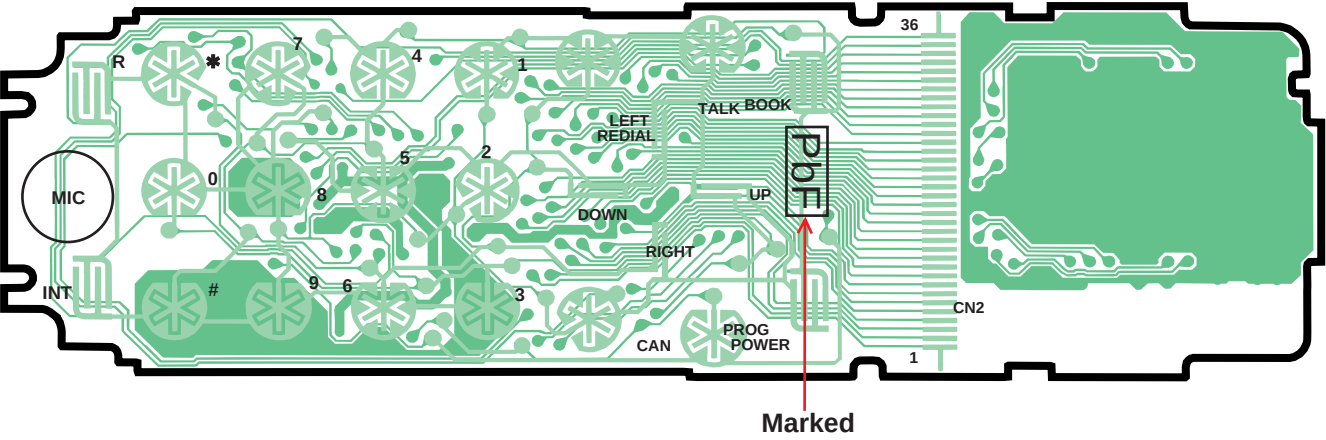
CHG terminal comes out of rib by pulling black lead wire when opening the cabinet and turning the PCB over. The terminal cannot have enough elastic force, cannot have good contact with handset, and it will result in charge problem.

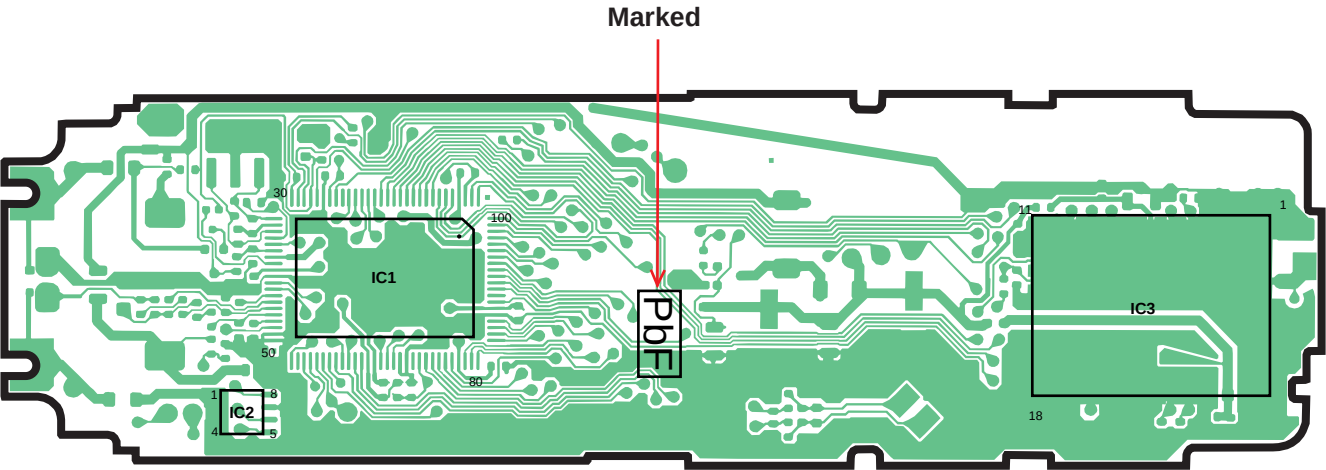


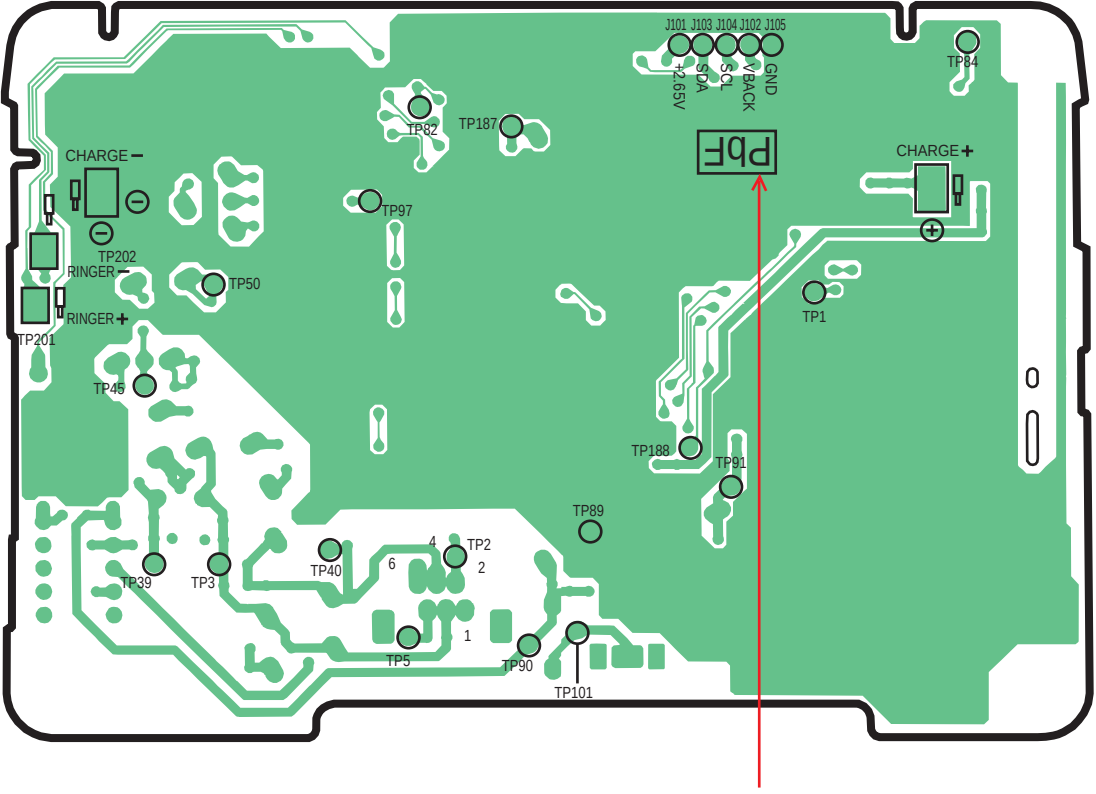
(Component View)

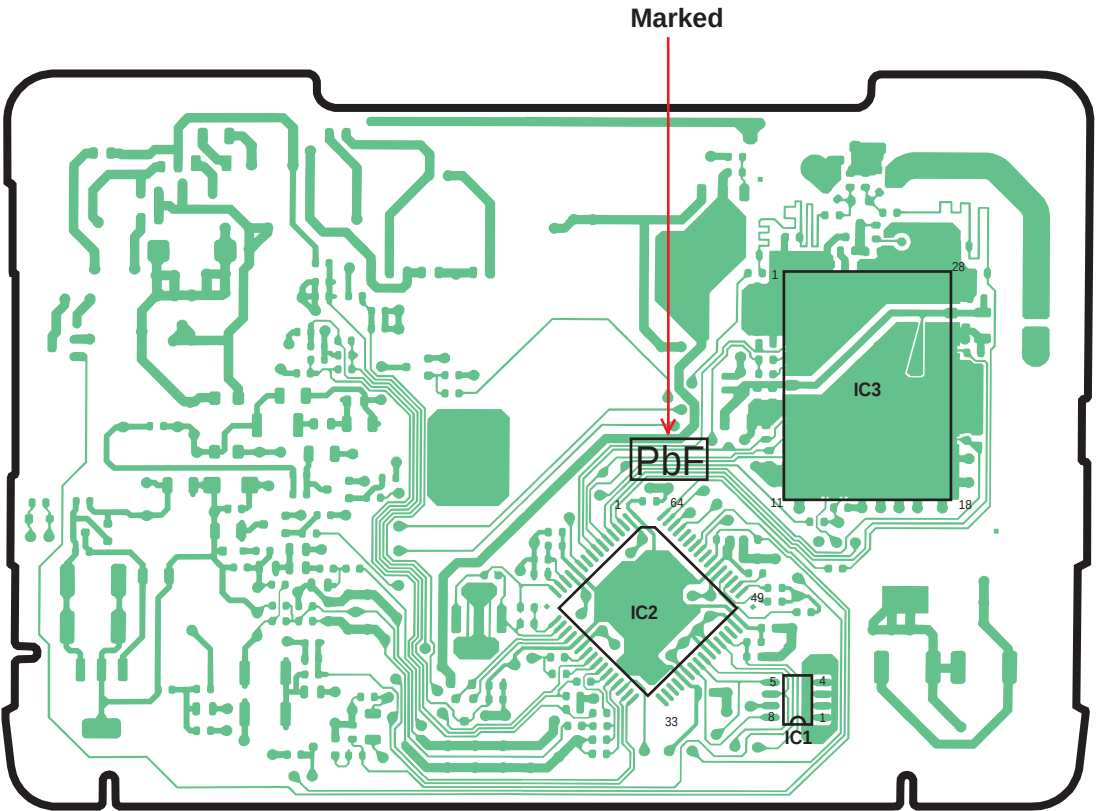


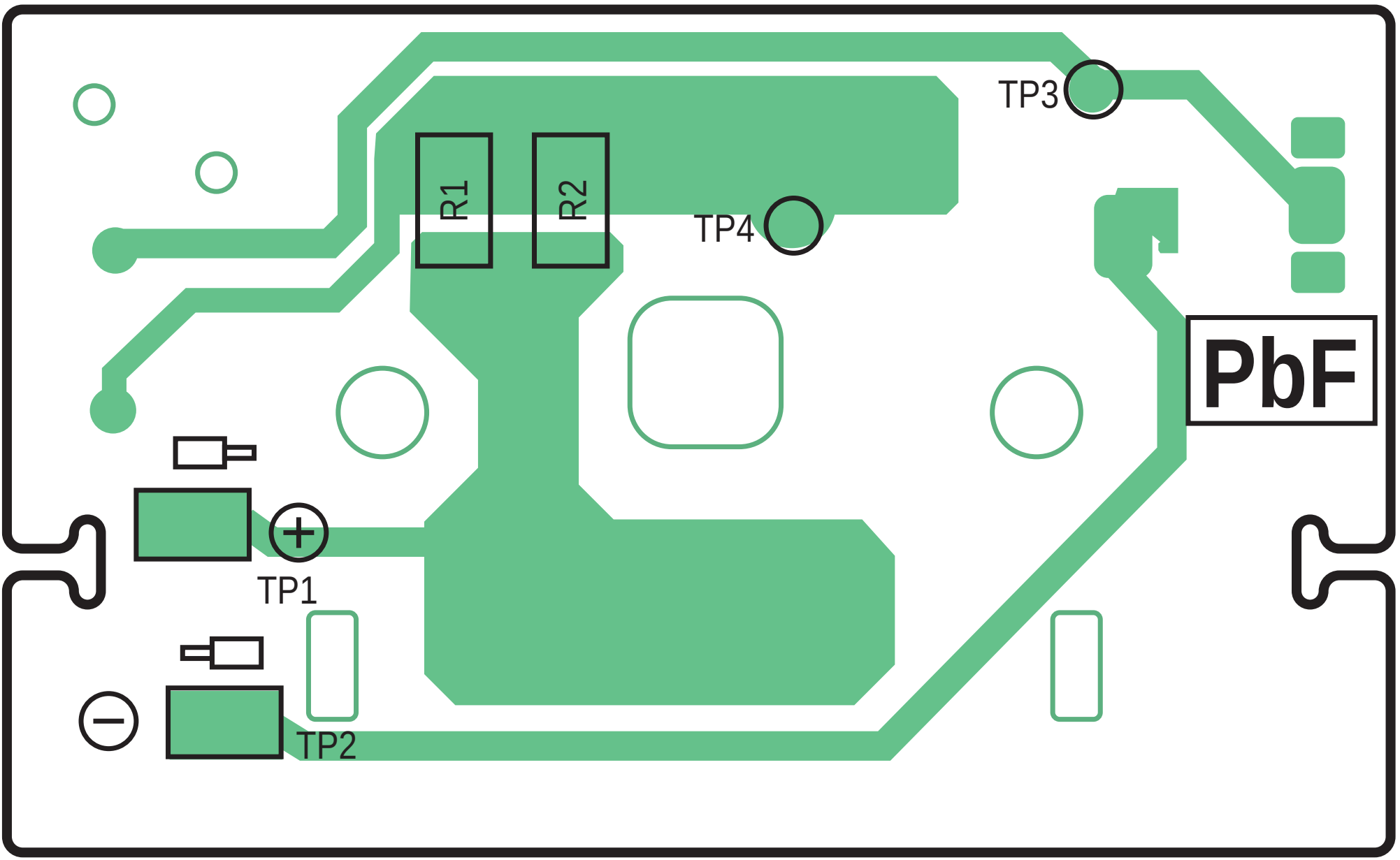
(Flow Solder Side View)


R
*
7
4
1
MIC
0
5
2
8
INT
#
9
6
3
LEFT
REDIAL
TALK
BOOK
UP
DOWN
RIGHT
CAN
PROG
POWER
36
1
CN2
Marked

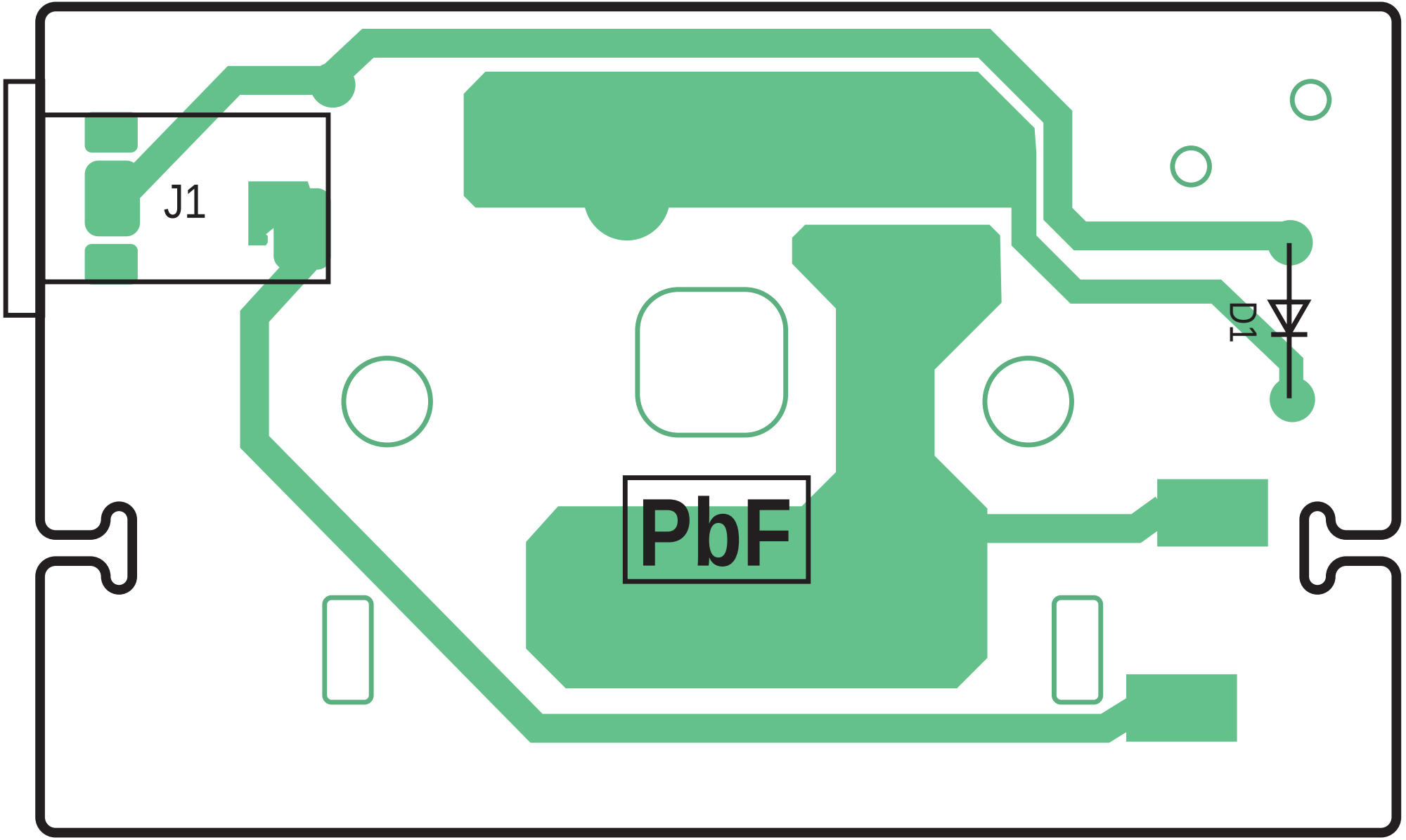

Marked
IC1
30
100
50
80
IC2
1
8
4
5
PbF
IC3
11
1
18


J101 J103 J104 J102 J105
+2.65V
SDA
SCL
VBACK
GND
TP84
TP82
TP187
PbF
CHARGE −
CHARGE +
TP97
TP202
RINGER −
TP50
RINGER +
TP201
TP1
TP45
TP188
TP91
TP89
TP2
4
6
2
TP40
TP39
TP3
TP5
1
TP90
TP101
Marked

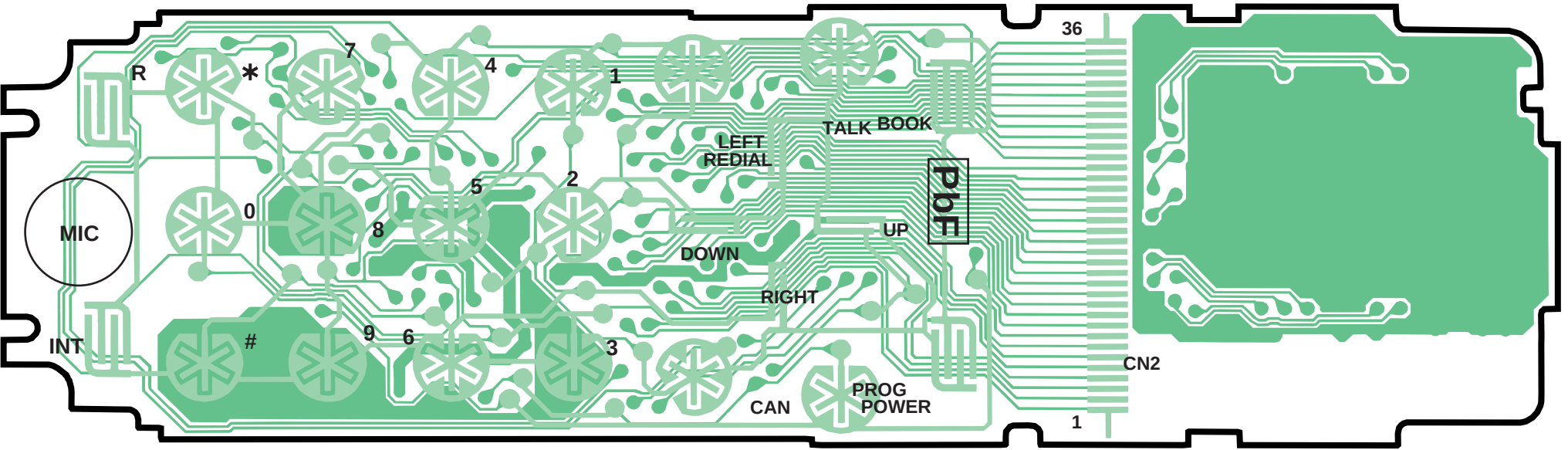

Marked
PbF
IC3
IC2
IC1
1
28
11
18
1
64
49
33
5
4
8
1



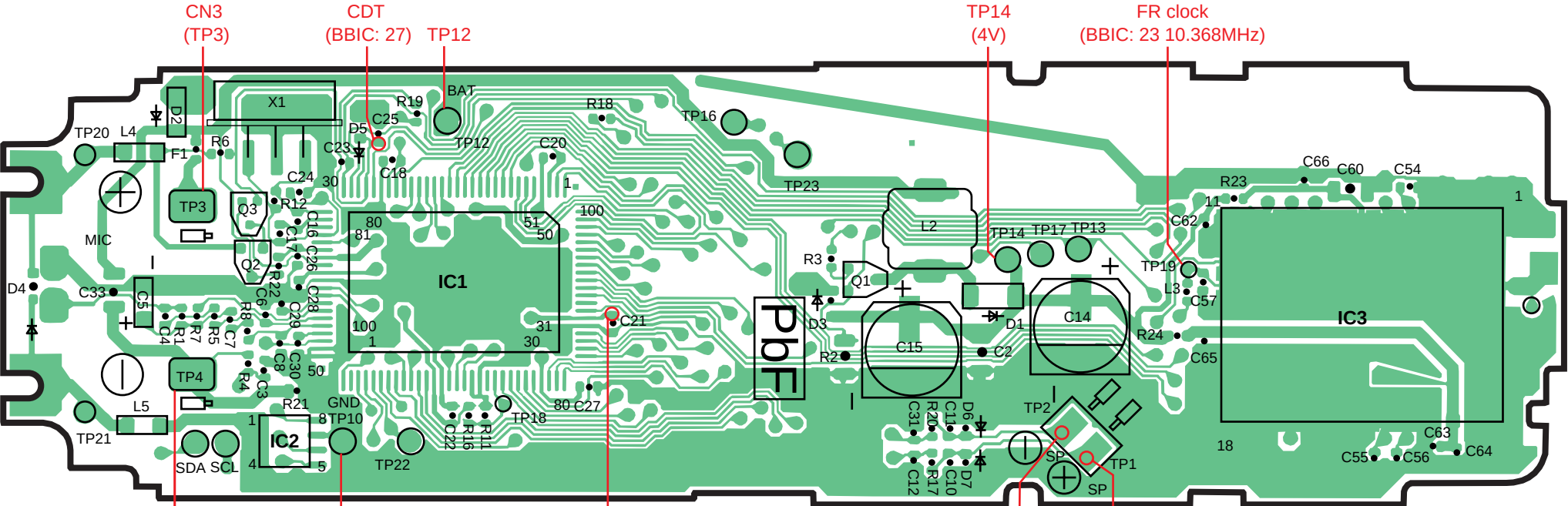
CIRCUIT BOARD (CHARGER UNIT) Flow Solder Side View



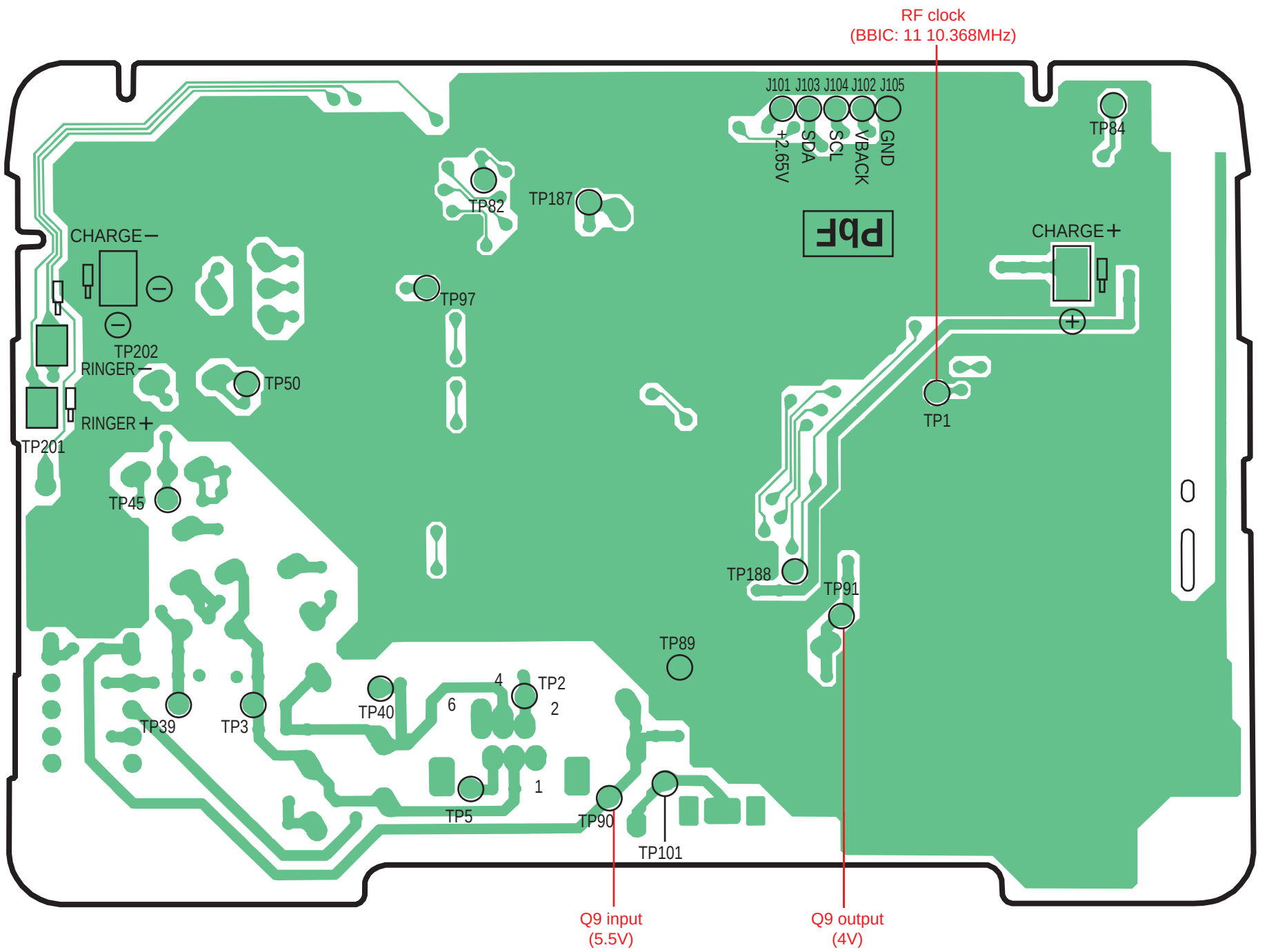
CIRCUIT BOARD (CHARGER UNIT) Component View



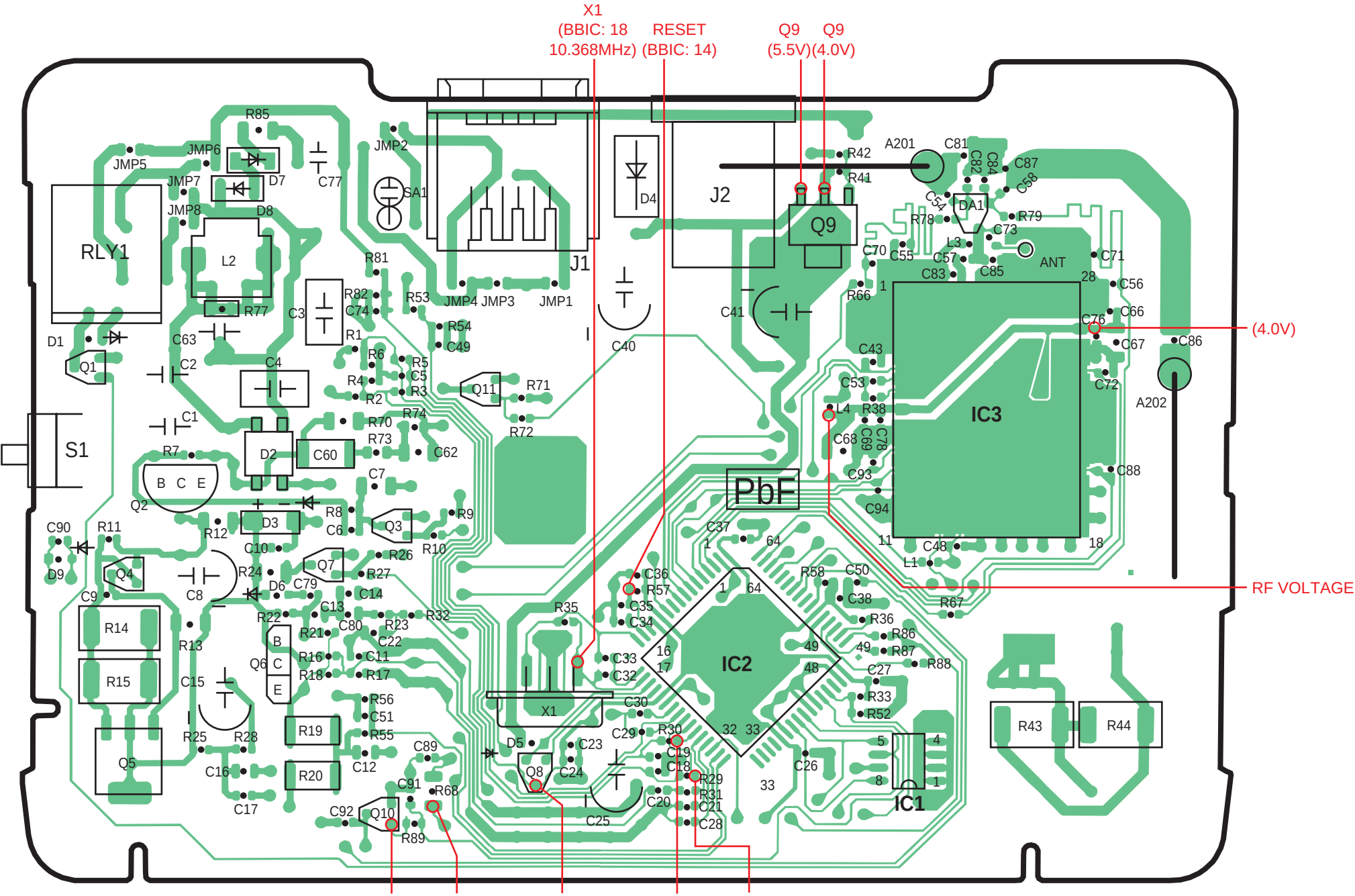
KX-A143EXC/EXF CIRCUIT BOARD (HANDSET) Flow Solder Side View



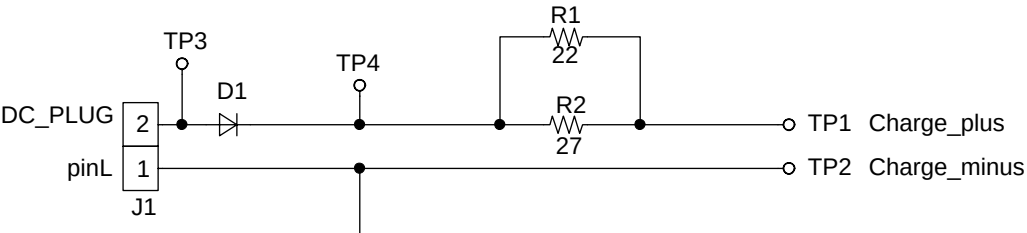
KX-A143EXC/EXF CIRCUIT BOARD (HANDSET) Component View



KX-TCD430GC/GF& 432GC/GF CIRCUIT BOARD (BASE UNIT) Flow Solder Side View



KX-TCD430GC/GF& 432GC/GF CIRCUIT BOARD (BASE UNIT) Component View



SCHEMATIC DIAGRAM (CHARGER UNIT)